The OIL WEEKLY

OIL and GAS ENGINEERING

INTERNATIONAL AUTHORITY FOR THE PRODUCING AND PIPE LINE INDUSTRY

THE WEEK'S NEWS INTERPRETED

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MAY 1 0 1945

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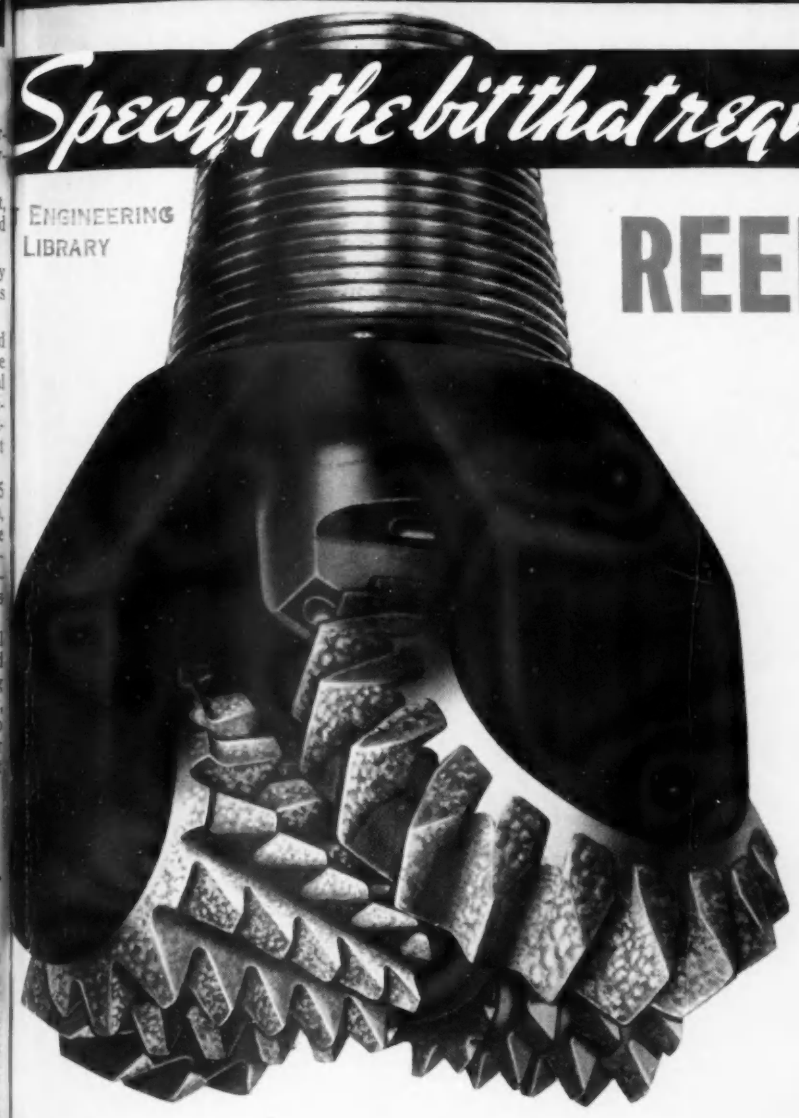

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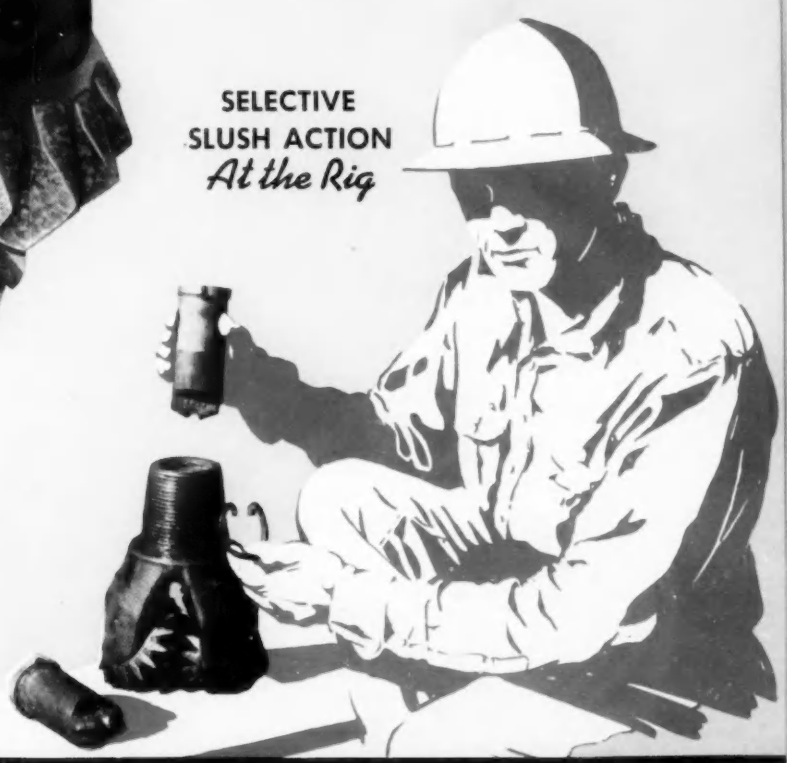

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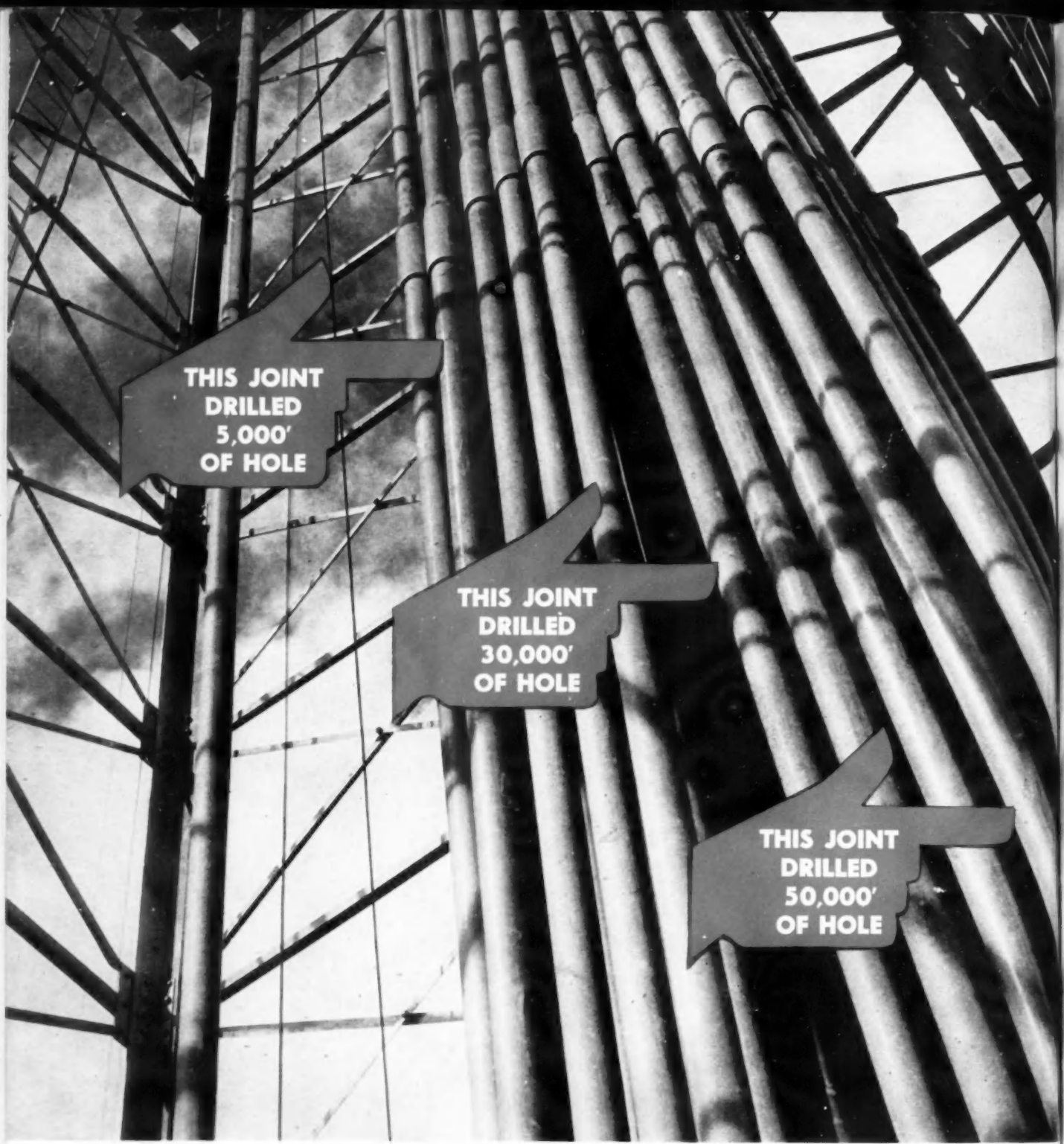

BUT IT ALL LOOKS ALIKE

The outside walls of drill pipe seldom reveal its true condition. As a rule, the joints that have drilled fifty thousand feet of hole *look*, from outward appearance, none the worse for wear than those that have drilled only one-tenth as much footage. It's what's inside that counts, and that's why more and more operators are making TUBOSCOPE service a regular part of their drilling routine.

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THE OIL WEEKLY

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LOOKING AHEAD
... with the Editor

THE set-up of derrick and equipment at a new location, long looked on as a special operation which must be designed anew every time the equipment is shifted, has been standardized and compacted by one drilling contractor so that a 20 percent saving in actual working area is effected; all welding in connection with rigging-up and tearing-down is eliminated, and lengths of pipe for all lines are held to a fixed minimum. Quick-acting, bolt-type unions on all lines provide for breaking down into standard lengths for hauling, and expedite uniting into the mains at the new site. Expansion joints, provided in the steam lines only, accommodate minor shifts in basic dimensions and eliminate the need for any more exact measurements than those obtainable with the standard steel tape used for checking drill pipe and casing lengths.

The story of this rig, with a diagrammatic sketch showing the placing of the component parts and minimum working dimensions, and with photographs illustrating the time- and labor-saving devices incorporated in the rig as a result of standardization and compactness in design, will appear in an early issue.

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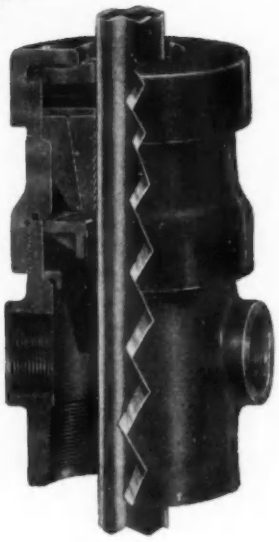

The Larkin Type SR Forged Steel Tubing Head has proved ideally suited for medium pressure flowing wells, regardless of depth. It is adaptable to any surface hookup, and its neoprene stripper (tested against 4,500 p.s.i.) provides blowout preventer protection when tubing is being pulled or run.

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The Outlook

Revocations by the wholesale of WPB material-control orders are due immediately but tubular goods, due to mill limitations and Pacific demand for heavy shells and rockets, will be among the last items so released. Page 29.

* * * *

Congress will vote a two-year extension of the emergency pipe line act within the next six weeks, this on the basis of a favorable report filed by ICC.

* * * *

End of the war emergency will see a drive to have the trade agreements act defined as limited to import duties and not applicable to import taxes on petroleum, thus averting a threatened flood of petroleum from countries which, during the war, have received considerable U. S. assistance in developing oil production.

* * * *

Quick action to put the intangible drilling costs option in the Internal Revenue Code is seen with a declaration that it was always the congressional intent, as expressed in a resolution by Chairman Doughton of the House Ways and Means Committee which handles tax matters.

* * * *

More post-V-E day problems: Anti-trust cases involving war industries, kept out of courts for three years, will be revived. Government will make a vain effort to retain until V-J day many industry executives and technical men now serving war agencies.

* * * *

Patent-control legislation, apparently in the offing, may be in the form of anti-cartel statutes or a measure making use of patents by owners compulsory under penalty of government-licensing to all comers.

* * * *

Russian delegates at San Francisco are instructed to force U.S. and Great Britain to agree to a three-way pact covering oil rights in the Middle East, specifically Persia. They hope for an agreement recognizing Russia's right to exploit petroleum resources of north Persia and granting an export outlet on the Persian Gulf.

* * * *

Quick aid for United States' fast diminishing natural rubber stockpile is being planned as soon as East Indian sectors with their rubber plantations are reoccupied. All available military as well as civilian labor will be utilized and requisite equipment is already being stacked up for the job. Competition between natural and synthetic rubber for world markets may not be so far away.

* * * *

Production of Saudi Arabia and Bahrein will be doubled to approximately 120,000 barrels daily late this year to meet enlarged refining capacity. Arabian American Oil Company is building a 50,000 barrel refinery at Ras Tanura, and Bahrein Petroleum Company has expanded its Bahrein Island plant to handle 60,000 barrels daily.

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The Changing Panorama

Postwar Business Plans Many Changes

THIRTY-SEVEN percent of the nation's manufacturers and forty-four percent of the wholesalers are planning to make or distribute new products or lines according to a survey recently completed by Dun & Bradstreet.

Industries contemplating the highest percentage of planned changes include the automotive and transportation lines, chemicals, electrical machinery, machinery, and rubber and transportation equipment.

Of the manufacturers contacted, more than a third plan to make new products, more than a fourth to sell new classes of customers, nearly a half plan to expand their sales territories, more than a fifth plan to use new methods or channels of distribution, and more than an eighth contemplate other fundamental changes in operations.

About half of the wholesalers plan to include new lines and to expand their sales territories, a third plan to sell new classes of customers, more than a fourth plan to use new methods or channels of distribution, and a sixth contemplate other fundamental changes in operations.

It is especially notable that this awareness of the necessity of change pervades all size groups. The answers reflect a spirit of change in American business and a willingness to grapple with the challenging problems of distribution that the postwar world will see.

Oil's Case Before New Senate Group

ANOTHER thorough Congressional investigation of oil industry affairs and conditions gets under way ten days hence. With petroleum so much in the limelight of postwar world planning, this new investigation could have a very important influence on the industry.

The study will be extremely broad, covering world trade, cartel agreements, postwar requirements, domestic sources and other phases. Undoubtedly, the investigation will reflect changes brought about by the war in both industrial and political thinking. It certainly will be comparable with the prewar study made by the Temporary National Economic Committee, since Senator O'Mahoney headed both.

The investigation has been broken down into definite phases, and committees from the industry have been assigned to present oil's story on each topic. Unfortunately, these committees have very little time to prepare their presentations. Oil men having data that might be of value and interest should submit such information to the proper committeemen immediately. (See page 28.)

Postwar continuation of all the nation's 100-octane facilities in manufacturing that product is improbable, according to Bruce K. Brown, general manager of research and development, Standard Oil Company (Indiana), who thinks the bulk of such equipment can be converted, almost overnight, to producing 85 to 90-octane gasoline, useful in automobiles and far superior to the prewar motor fuel.

Prefer Old Agencies To New Regionals

TWENTY associations concerned with national policies on lands and waterways have addressed a joint letter to members of Congress expressing opposition to a federal theory of administration under which new regional federal agencies to be created would take the place of those long established. Specifically, these associations say that they believe that the public would be better served by a continuation of the old federal agencies, the Army Engineers, the Bureau of Reclamation, etc. (five in number), rather than through the proposed establishment of a multiplicity of semi-local bureaus. The joint letter gives as the basis of opposition to regional "authorities," among others, the following reasons:

Government agencies with wide experience in which the people have full confidence are eliminated entirely or relegated to minor roles.

An authority in form of a federal corporation would be free of many of the legal and congressional restraints which experience has demonstrated to be necessary in a democracy.

An authority casts the states in the role of archaic political units in the scheme of government, so that they become subservient to a corporate superstate controlled by three men.

Authorities would establish dictatorships over the basic resources of the area they control even though they may be of a benevolent nature.

Industrial growth, individual enterprise, agricultural development, recreational facilities, and transportation would be subject to the domination of a corporation clothed with the power of government, in full control of basic natural resources, including water, electric power, public lands, minerals, timber, etc.

Federal authorities are a dangerous welding of economic control and political power, which threaten interference in social and cultural activities.

Establishment of regional authorities, not answerable to the Congress for the expenditure of their revenues, would be a repudiation of the lessons of history. When we surrender "control of the purse," we surrender control over government.

☆

It is apparent that our competitive enterprise system is directly responsible for the amazing accomplishments of the petroleum industry in this war.

—J. HOWARD PEW,
Sun Oil Company.

Proposals Would Affect Air Travel

INVISIBLE barriers that would restrict the freedom and economy of air travel are in the making, according to the Air Transport Association of America. Two specific proposals have already been made that would have a direct adverse bearing on future air commerce. They are:

"1. That each individual state shall have control over the *intra*state operations of *inter*state air carriers.

"For example, an air carrier making frequent stops on a coast-to-coast schedule might be subject to a dozen or more sets of conflicting state regulations.

"2. That the refunds and the exemptions on motor fuel taxes (now generally allowed since airplanes do not use state highways) should be discontinued."

These proposals would mean an increase in operating costs which would necessarily be reflected in higher fares or in reduced service. In the latter case alone, the elimination of existing refunds and exemptions would increase the direct flying costs of air carriers by approximately 10 percent.

Oil Is a Big Energy Source

THE annual oil production of the United States develops energy amounting to 7½ quadrillion British thermal units. This is on the basis of production in 1939, chosen to avoid the distorted picture presented by abnormal production of the war years. In 1939 the United States produced 1260 million barrels of crude oil. Crude oil contains about 19,000 Btu's of energy per pound.

The Lamp, published by Standard Oil Company (New Jersey), states if so much energy had to be obtained from any one of the following sources, it would require, in round numbers:

96 billion gallons of grain alcohol, at 11,760 Btu's per pound, which is 930 times the annual U. S. output of grain alcohol; or

2950 billion horsepower hours of electricity, at 2545 Btu's each, which is 119 times the annual production of electrical energy at Boulder Dam and Niagara Falls combined; or

2200 billion pounds of nitroglycerine, at 3400 Btu's per pound, which is 680,000 times the annual output of nitroglycerine in the United States; or

Four trillion pounds of guncotton, at 1900 Btu's per pound, which is 2 million times the annual production of guncotton in the United States; or

27 billion cubic feet of wood, assuming 7500 Btu's per pound, which is two times the recorded annual production of wood in the United States; or

250 million tons of coal at an average value of 15,000 Btu's per pound, which is a little less than half of the annual United States production of coal.

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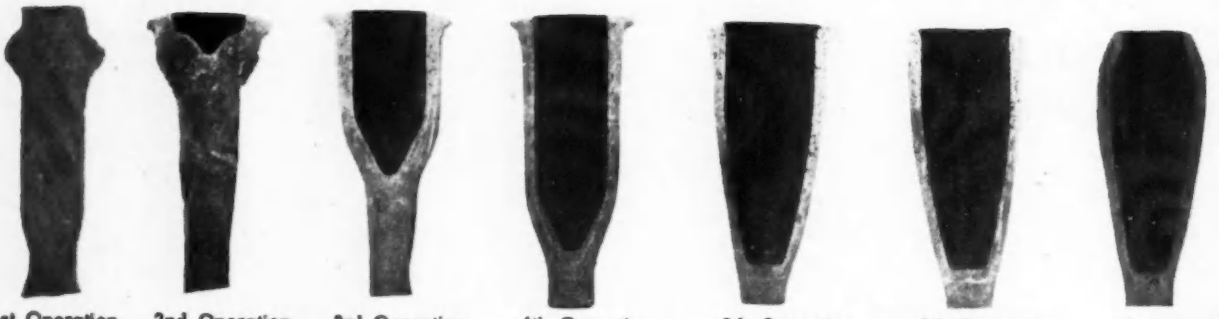

1st Operation | 2nd Operation | 3rd Operation | 4th Operation | 5th Operation | 6th Operation | 7th Operation

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PRECISION FORGINGS FOR THE OIL FIELD EQUIPMENT INDUSTRY

No Man Is Wise Enough to be God

An Editorial
By ELLIOTT DUDLEY

A BASIC foundation of peace, we have been assured on high authority, is the Economic and Social Council which is part of the program of the proposed United Nations. "Here for the first time," asserts one of the dreamers, "we see the possible emergence of an advisory Economic General Staff of the World."

Before our country is permanently committed to such a global enterprise, we should demand that all powers and limitations residing in such a body be clearly defined. Are we seeing in a foreshadowed Eden of promised security the sinuous trail of totalitarianism? Is the final fruit of this war to crush dictators to yield a world master and a Roman peace?

It has become a fashion to refer to the necessity of a planned economy as the alternative of recurring depressions and wars. Others have believed, and still believe in national socialism. Only arrogant extremists advocate totalitarianism. Yet the difference between these philosophies of management is only in degree of intensity. They are whelps of the same litter.

A planned economy, that is, governmental control of production and prices, has never had temporary success except by developing into national socialism. Planning an economy presupposes a social outlook and any economic system is effective only on a national scale. Each advance toward socialism must be supported by another. Bicycle-like, it can keep from falling only by going forward, and its stability depends upon the velocity of the motion.

Thus the life of the people becomes hopelessly enmeshed in a maze of limitations and directives which, if continued, can result only in chaos. If, for example, the government conceives it to be its social function to support the prices of farm products, it logically follows that surplus pigs shall be destroyed, surplus cotton plowed under, and farmers paid for not raising wheat. Later, when supplies grow scarce, the next step is to ration commodities to consumers, and muddled management blunders from one absurdity to another.

For oil, it would mean airtight control over every operation because as the system rapidly progressed it would involve every interest and act of every individual. Thus would come totalitarianism—no matter how altruistic the motive which planted the seed. Then we would have dictatorship, for a master plan must have a master mind. It is not merely security from the cradle to the grave, it is slavery over the same life span.

Totalitarianism, being the ultimate of a series of encroachments upon personal initiative in a scramble to make planned economy function, must have total success or total failure. History is recording in blood that the result is invariably total failure.

If there were no historical demonstration, there is one reason which in itself reveals the inevitable end. This is the easily-recognized truism that the multiplicity of details in ordering the life of a whole nation is beyond human grasp. Many men have not the wisdom and foresight to handle their own affairs. Far fewer can profitably manage a large enterprise. Having now failed on a national scale, it is proposed to put the program on a planetary scale.

It is difficult to understand why it is imagined that any creature of flesh and blood, or any group of men, however talented, can comprehend, master, interrelate, and direct the daily affairs of billions of their fellow men.

It is widely believed that the fatal weakness of the League of Nations was its unfortunate marriage to the Treaty of Versailles. In an effort to avoid a recurrence of that error, an attempt is now being made to set up a world instrument for peace apart from any treaties which may conclude this war. But a greater error is being threatened in the plot to saddle upon a world state a system of universal planned economy which can result only in a world dictatorship. This conflict has been too gallantly fought and too dearly won to risk the wreckage of the peace in an effort to force a discredited and unworkable theory upon the peoples of the earth.

Some day, perhaps, the world will awaken to the realization that the democratic process of each person planning his own affairs, with all the mistakes and cross purposes involved, is a composite success; while the wisest plans of the most powerful dictator, like the scheming of a criminal, carries the seeds of its own undoing. Some day we may observe that the lilies of the field reveal the tawdriness of a Solomon. Some day we may learn that no man or group of men, however great or clever, can be wise enough to be God.

Postwar Factors Relating to Oil

FAVORABLE and unfavorable factors that will affect the oil industry in the postwar period, according to B. Brewster Jennings, president of Socony-Vacuum Oil Company, Inc., are:

"From the long term viewpoint—looking ahead for five years—economists expect a substantial expansion in consumption of oil products. In the immediate postwar period there likely will be a temporary decline in demand, particularly for gasoline.

"However, although cars are being scrapped at a rapid rate—1945 mortality estimated at 800,000 passenger cars—the reduction in number may not be as severe as has been predicted. With reasonable care of tires and engines, 24 million motorists will still be on the road. Moreover, the automobile manufacturers are expected to get into production more quickly than had previously been estimated.

"The demand for other major oil products, particularly the fuel oils, is likely to hold up well in this interim period while the country converts to peace. Fuel oils account for about 20 percent of the value of refinery products. Three of the largest users—heating, ships and diesel engines—are all likely to show steady increases."

Effect on Business Of Patent Changes

PROSPECTS are that patents and patent laws will be much in the limelight. Patents are such an important fundamental part of United States industry. Any changes will effect business practices. Oil would be among the businesses that would be influenced in a big way.

President Truman has instructed Henry A. Wallace to prepare a program for revision of the nation's patent laws. Wallace undoubtedly will propose sweeping changes. Several congressmen also have expressed themselves as favoring revisions.

General thought with respect to changing patent laws favors outlawing of patents if they are not put to use within a definite period of time, compulsory licensing to anyone willing to pay a royalty, forfeiture of patents used in making trade agreements in violation of anti-trust laws, and tighter control over issuance of patents to make sure new inventions are patentable and valid.

Wallace can be expected to favor most of these proposals. Adoption of any of these suggestions would have important effects on United States business practices.

☆

The provisions of the revenue act with respect to percentage depletion and intangible drilling cost deductions from taxable income provide assistance to production activities, which are of particular importance in a period of high taxes such as the present.

W. T. HOLLIDAY, *President,*
Standard Oil Company (Indiana).

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FACTORY AT TRENTON, NEW JERSEY

The Week's News

WITH allocation by WPB of 278,000 tons of steel for oil country tubular goods, PAW last week expressed confidence that the third-quarter 7200-well drilling program would be carried out, calling upon the industry to withdraw approximately 55,000 tons from inventory to make up the difference between the allocation and estimated requirements. Page 29.

Drilling Cost Legislation—Legislation to formalize the option on intangible drilling costs progressed a step further with introduction by Chairman Doughton of the House Ways and Means Committee of a resolution reciting that it was always the intent of Congress that the option be granted. Page 30.

Senate Oil Hearings May 17—U. S. oil and gas men were actively preparing for the hearings which will open May 17 before the Senate Special Petroleum Resources Committee, with six groups scheduled to meet just prior to the PIWC session. Page 28.

Tax Changes for Conversion—Treasury and congressional tax experts recommended that post-V-E Revenue revision be confined to a few steps designed to assist industry through the conversion period, with general tax reductions deferred until V-J day. Page 30.

PRC Used as "Persuader"—Petroleum Reserves Corporation has been an effective way of convincing the British of the desirability of the Anglo-American petroleum agreement, it was declared by Administrator Ickes in opposing legislation to liquidate the concern. Story below.

Probable Oil Imports—The Federal Trade Commission reported to Congress that the future of the oil industry was so difficult to prognosticate that estimates of probable oil imports after the war were practically impossible. Page 31.

Oil from East Indies—The State Department announced consummation of a lend-lease agreement with the Netherlands, covering the supply, among other things, of $10 million worth of oil and contemplating reverse lend-lease of oil and rubber from the Netherlands East Indies after they are freed. Page 30.

Pauley Appointed—Edwin A. Pauley, California oil man, last week was appointed by President Truman to be American member of the Allied Reparations Commission with the rank of ambassador. Pauley's first official service in his new post will be at the commission's Moscow meeting this month.

Further PAW Cut—Already-reduced budgets for war agencies whose activities will diminish after V-E day were further cut May 2 by President Truman in a message to Congress. Included was PAW to be cut $345,000 from the revised figure of $4,345,000 recommended by FDR.

Tanker Fleet Increased—Seventeen more tanks were added to the nation's oil fleet in April. One of the vessels was a private tanker and the remaining 16 were standard types.

Tank Car Speed-Up—Continued concern over the tank-car situation was manifested in Washington last week in a PAW order directing domestic refiners to manufacture only 22 grades of asphalts and road oils instead of the 55 to 60 grades normally produced. The limitation will increase efficiency of tank car operations, by eliminating movement of cars from one loading rack to another for the blending of a special grade.

Mississippi's First Statewide—Governor Bailey indicated an advisory committee might be named to aid the state's Oil & Gas board in regulatory matters. First statewide hearing shows sincere effort toward sane conservation practices. Page 32 .

Hugoton Drilling Restricted—In order to shift steel, badly needed on oil wells for the war effort, PAW has directed that no new wells may be drilled in the Kansas-Oklahoma sect... of the Hugoton gas field. Page 32.

Pew Gets Hanlon Award—James E. Pew, PAW director natural gas-natural gasoline division, is the ninth recipient of the Hanlon award, one of the ranking merit awards in the petroleum industry. Page 30.

Gas Committee to Wait—Texas "governor's committee" will await the May 13 meeting of the national policy committee on gas before taking action regarding FPC encroachment. Page 31.

Deferment Picture Changing—More 18-30 deferments have been allowed the oil industry but local draft boards are hitting the 30-37 group harder. Page 31.

Foreign Priorities Eased—Foreign operators are put on par with domestic by changes in priorities that will speed up handling of materials applications. Page 32.

All-Time Production Peak—THE OIL WEEKLY's production table, page 31, shows that for the week ended May 5 a new all-time peak of 4,824,555 barrels daily was set.

Ickes Calls PRC "A Persuader" in Anglo-American Oil Pact Discussions

Petroleum Reserves Corporation was credited last week with having brought British oil men to Washington to discuss the pending Anglo-American petroleum agreement and is still useful as a "persuader," Administrator Ickes declared in opposing pending legislation to liquidate the organization.

Ickes' views were disclosed in a letter to Senator Robert Wagner of New York, chairman of the Senate Banking and Currency Committee, in which he declared the time for abandonment of PRC is not while there is still possibility of international difficulties in the realm of oil.

"I can readily see why a reading of the charter of the corporation, which appears to have been the extent of the research in connection with the proposed bill, might lead one to believe that it was set up to do some or all of the things charged in this resolution," he said. "However, a better knowledge of the activities of the corporation and of the part that its creation has played in strengthening the future petroleum position of the United States would, I am sure, effectively dispose of these allegations.

"The PRC was set up at a time when there was very great concern, both in the government and in the oil industry, for the future of foreign oil concessions held by United States companies. The history of the struggle for oil following the first world war more than justified that concern.

"The United States government should not sit back and indulge in wishful thinking about its future oil supplies. For one thing, I felt that it was high time that some specific steps were taken to bring about establishment of a program for the orderly conduct of the international oil trade, before chaos once more broke loose. I felt that if anything was to be done in this direction, the United States government would have to take the lead.

"Not long after PRC announced it would construct a crude oil pipe line from the Persian Gulf to the Mediterranean, representatives of the British

government were on their way over here to talk about an Anglo-American petroleum agreement. Personally, I do not believe it was coincidence.

"We are in the process of working out a petroleum agreement with the British government, an agreement which we hope will be broadened in due course to include other countries. However, the agreement with the British has not yet been consummated.

"The PRC, in my opinion, has not yet fulfilled its purpose."

More Gasoline Rations to Follow V-E, Ickes States

V-E day will be followed by a 50 percent increase in gasoline rations for A and B drivers, Administrator Ickes said, but there is no present likelihood of any increase in fuel oil supplies.

Neither oil nor coal will be more plentiful next winter; may, in fact, be less so, he added.

Notice was served upon home heating oil consumers May 1 by PAW that they likely will get a slightly heavier grade of oil than was used last year, but they were assured that the heavier oil contains more heat units per gallon and will burn as well if burners are properly adjusted. The change is due to the increased demand for diesel oil and high-octane gasoline, it was explained. Navy needs for diesel fuel are at an all-time high, but will run still higher as operations against Japan are intensified; both it and high-octane gasoline are produced from "straight-run oil," and as a result of the drain on supplies, a large proportion of the oil available now for home heating is cracked oil remaining from the manufacture of aviation gasoline.

Secondary Recovery Work At Hogshooter Described

An informal report on secondary recovery experiments in the Hogshooter field, Oklahoma, was issued by the United States Geological Survey last week, and a limited number of copies have been made available at the Tulsa office for free distribution.

The report, the first of a series planned by the survey, gives the results of a study of the possibilities of applying secondary recovery to the Bartlesville sand of the Hogshooter field, and reviews the conditions under which early production was effected and some of the areas deemed most favorable for secondary-recovery projects.

Southwestern Floods Cost East Tank Car Deliveries

Floods in Louisiana, Texas and Arkansas cost the East Coast another 862 carloads of oil during the week ended April 28, PAW disclosed last week. It was the fourth successive week in which tank car receipts declined, bringing them down to 512,031 barrels daily from the year's high of 547,030 barrels during the week ended March 31.

Early inprovement is expected.

Presentation of Industry Case Planned As Senate Group Outlines Oil Hearings

An investigation of the oil industry paralleling that made by the Temporary National Economic Committee prior to the war is indicated in the schedule of hearings announced by Senator Joseph C. O'Mahoney, chairman of the Special Committee Investigating Petroleum Resources, who also headed the TNEC.

Timed to catch important oil executives in Washington, O'Mahoney scheduled the hearings to open May 17, the day following the PIWC meeting.

First witnesses will be government representatives—Attorney General Francis Biddle, Assistant Attorney General Wendell Berge, in charge of the anti-trust division, and officials of PAW, the State Department and the Federal Trade Commission. First subject will be cartels in relation to petroleum in world trade.

TNEC gave only passing attention to international cartels, but O'Mahoney has a bill in Congress providing for registration of cartels and reporting of cartel agreements. Members of the Senate Judiciary subcommittee in charge of that measure have been invited to sit in on the hearings.

O'Mahoney's Views

"The problems of world trade in the postwar world are as important and far-reaching as the problems of organizations for peace because without a stable world economy it will be difficult to maintain peace organization," the Senator said. "The world will have difficulty recovering from the disastrous destruction wrought in the war unless we find a way to stimulate production everywhere. The nature and responsibilities of the organizations which carry on world trade constitute, therefore, an important problem."

The various studies have been broken down by the committee, tentatively scheduled as follows:

I. *Cartels in relation to petroleum in world trade.*

A. Nature of cartels: 1. Private. 2. State monopolies. 3. Mixed.

B. History of petroleum cartels: 1. Restriction of production. 2. Allocation of markets. 3. Control of price. 4. Effect on competition.

C. Extent to which participation in prewar cartels was required in order to do foreign business.

D. What should government policy be as to postwar cartels? 1. Should immunity from prosecution under anti-trust laws follow where acts have received prior governmental approval? 2. Should immunity be accompanied by governmental regulation of the acts in question, and if so, to what extent? 3. Types of arrangements for which immunity would be expected.

II. *Sources of petroleum in the United States.*

A. Character of petroleum: 1. Liquid. 2. Gaseous.

B. Location and extent of present reserves of oil and gas; percentage of ownership by American capital; percentage in public lands.

C. Factors affecting production: 1. Conservation laws and practices as to oil and gas. 2. Connally hot-oil law. 3. Interstate Oil Compact. 4. Taxation. 5. Price—industry basis and governmental price-fixing.

D. Subsoil under territorial waters: 1. Bays. 2. Maritime belt. 3. State or federal jurisdiction.

E. Subsoil under continental shelf: 1. International questions involved.

F. How may exploration be stimulated (a) on the public domain and (b) in other areas? 1. By relaxation of governmental controls? 2. By affirmative governmental action?

G. Production methods: 1. Primary. 2. Secondary. 3. Maintenance of stripper wells.

H. Substitutes for natural petroleum: 1. Shales. 2. Coal. 3. Other substitutes.

III. *The independent company.*

A. History and character.

B. What are the problems incident to the operation of an independent company in exploration, transportation, refining, and selling? 1. Advantages of individual operation. 2. Difficulties inherent in small capital and nature of petroleum business. 3. Artificial difficulties— unintentional effects of operations of larger companies, governmental policies, and discriminatory practices.

C. What could or should be done by the federal government in respect of any difficulties under "B" above?

D. History of operation of anti-trust laws in relation to petroleum companies.

1. Appraisal of effect of such laws.

IV. *Postwar disposal of pipe lines, refineries, and tankers.*

A. Pipe lines: 1. Should government-owned lines be sold or leased, and under what conditions? 2. Or should they continue to be owned by the government for national defense purposes, and leased to private interests in peace time?

B. Refineries: 1. Should any preference be given to purchase or lease by smaller companies? 2. Should government credit be furnished to buyers or lessees to make original purchase or lease or for additional capital for modernization purposes? 3. Should there be a maximum limit to the term of a lease? 4. Should any refineries be disposed of to foreign interests?

C. Tankers: 1. Should unsold tankers be disposed of to foreign companies or governments? 2. Should unsold tankers be scrapped? 3. Should the government operate a fleet of tankers?

V. *Petroleum requirements.*

A. Prewar consumption in U. S. by-products.

B. Estimated postwar requirements in U. S. by-products: 1. New uses and applications of petroleum.

C. Estimated world requirements by countries.

D. Estimated postwar productive capacity by countries.

E. Movements of petroleum in world trade: 1. U. S. imports and exports.

F. What should be our policy as to imports and tariffs? 1. Effect on cost to consumer. 2. Effect on domestic industry. 3. Considerations of national defense.

VI. *American Petroleum interests in foreign countries.*

A. History and extent.

B. History of diplomatic protection since World War I: 1. Middle East. 2. Netherlands East Indies. 3. Mexico. 4. Venezuela. 5. Other producing countries. 6. Consuming countries

C. Reasons for varying degrees of success.

D. How can diplomatic protection be made more effective?

Industry Presentation

The joint oil-gas committee of five set up at the conference of oil and gas men in Washington April 19 has appointed six groups to handle presentation of testimony. These committees are not a part of PIWC.

Work of the six groups will be coordinated by a seventh to be headed by A. Jacobsen, president of Amerada Petroleum Corporation, with the six group chairmen as members. The six study committees have been urged by William R. Boyd, Jr., chairman of the steering committee, to meet in Washington about May 14, just prior to the council meeting, to develop their presentations.

The subject to be handled by each committee, and its membership, are as follows:

Cartels in relation to petroleum in world trade: Orville Harden, Standard Oil Company (New Jersey), chairman; L. B. Levi, Socony-Vacuum Oil Company; W. S. S. Rodgers, The Texas Company; P. O. Settle, Gulf Oil Company; Russell B. Brown, IPAA; Harry D. Collier, Standard Oil Company of California; W. Alton Jones, Cities Service Company.

Petroleum requirements: Robert E. Wilson, Standard Oil Company (Indiana), chairman; Stewart P. Coleman, Standard Oil Company (New Jersey); Joseph E. Pogue, Chase National Bank; J. French Robinson, American Gas Association; H. J. Struth, Texas Mid-Continent Oil and Gas Association; James V. Brown, IPAA; E. Buddruss, Independent Natural Gas Association; Earl W. Wagy, Standard Oil Company of California; Fred Van Govern, API.

Sources of petroleum supply: John M. Lovejoy, Seaboard Oil Company, chairman; E. Buddruss, INGA; Ralph T. Zook, IPAA; A. C. Mattei, Honolulu Oil Corporation; W. H. Ferguson, Continental Oil Company; E. DeGolyer, Dallas; J. Edgar Pew, Sun Oil Company; A. I. Levorsen, Tulsa; Ralph B. Lloyd, Western Oil and Gas Association; Henry Phillips, Sinclair Oil Corporation; J. C. Hunter, Mid-Continent Oil and Gas Association; R. S. Shannon, Pioneer Oil Corporation; Harry C. Wiess, Humble Oil & Refining Company; Charles F. Roeser, Roeser and Pendleton, Inc.; Walter S. Hallanan, Plymouth Oil Company; J. French Robinson, AGA; James Terry Duce, Arabian American Oil Company; George S. Walden, Standard-Vacuum Company; George A. Hill, Jr., Houston Oil Company of Texas.

American petroleum interests in foreign countries: Harold F. Sheets, Socony-Vacuum Oil Company, chairman; Eugene Holman, Standard Oil Company (New Jersey); J. Frank Drake, Gulf Oil Corporation; A. E. Watts, Sinclair Oil Corporation; Don R. Knowlton, Phillips Petroleum Company; H. D. Collier, Standard Oil Company of California; George A. Hill, Jr., Houston Oil Company of Texas; W. Alton Jones, Cities Service Company; W. S. S. Rodgers, The Texas Company; R. H. Colley, The Atlantic Refining Company; Reese H. Taylor, Union Oil Company of California.

The independent company: Ralph T. Zook, IPAA, chairman; Major B. A. Hardey, Shreveport; Charles F. Roeser, Roeser and Pendleton, Inc.; C. L. Henderson, Western Petroleum Refiners Association; Harry A. Logan, National Petroleum Association; B. L. Majewski, Deep Rock Oil Corporation; Lee S. Wescoat, The Pure Oil Company; M. H. Robineau, Frontier Refining Company; C. P. Watson, Oil Producers' Agency of California; L. L. Aubert, Bankline Oil Company; Maston Nixon, Texas Mid-Continent Oil and Gas Association; O. D. Donnell, The Ohio Oil Company; C. C. Herndon, Skelly Oil Company; E. Buddruss, INGA; T. H. Barton, Lion Oil Refining Company; Frank M. Porter, Kansas-Oklahoma Mid-Continent Oil and Gas Association; A. S. Ritchie, D. R. M. Company; Dana Hogan, San Joaquin Valley Oil Producers Association; Van S. Welch, Welch and Yates; N. W. Shiarella, Kentucky Oil and Gas Association; A. W. Peake, Standard Oil Company (Indiana); K. S. Adams, Phillips Petroleum Company; John R. Suman, Standard Oil Company (New Jersey); B. Brewster Jennings, Socony-Vacuum Oil Company; Merle H. Becker, W. C. McBride and Company.

Postwar disposal of pipe lines, refineries and tankers: W. Alton Jones, Cities Service Oil Company, chairman; W. S. S. Rodgers, The Texas Company; Sidney A. Swensrud, Standard Oil Company (Ohio); J. R. Parten, Premier Refining Company; J. Howard Pew, Sun Oil Company; Orville Harden, Standard Oil Company (New Jersey); Hines H. Baker, Humble Oil & Refining Company; John Newton, Magnolia Petroleum Company; B. I. Graves, Tide Water Associated Oil Company; Robert H. Colley, The Atlantic Refining Company; C. S. Jones, Richfield Oil Corporation; Fayette B. Dow, Washington, D. C.; Clark H. Kountz, Sinclair Oil Company; T. E. Swigart, Shell Pipe Line Corporation; C. H. Kunze, Socony-Vacuum Oil Company; C. L. Roysey, Taylor Refining Company; E. Buddruss, INGA; J. French Robinson, AGA; Jake L. Hamon, Cox and Hamon; W. L. Stewart, Jr., Union Oil Company of California.

Sufficient Tubular Goods Seen for Drilling 7200 Third-Quarter Wells

Assurance that enough tubular goods will be available during the third quarter to carry out PAW's full domestic and foreign drilling programs was expressed last week by Deputy Administrator Davies.

The WPB, he said, has advised that it will issue a directive to the tube mills for the manufacture of 278,000 tons of seamless and electric weld tubular goods which, with the withdrawal of not exceeding 55,000 tons from operators' inventories, will provide the 333,000 tons which it has been estimated will be required for third-quarter operations. The requirements include 294,000 tons for domestic and 39,000 tons for foreign activities.

The capacity of the mills making tubular goods is sufficient to turn out the 278,000 tons earmarked for the oil industry and at the same time meet the armed forces' third-quarter requirements for bombs and rockets, it was said.

"The 27,000 wells programed for the United States in 1945 requires a minimum of 7200 wells in the third quarter," Davies said. These wells must be drilled as a matter of military necessity.

"There likely will be no appreciable let-down in our present high petroleum requirements until the end of the war in the Pacific. Since all major United States petroleum fields are now producing at or above their maximum rates of efficiency, we can only maintain our present production rate by continuing on a full scale our development and exploration programs."

Discussing the withdrawal of 55,000 tons from operators' inventories, Davies declared that the recent check by PAW indicates that they can safely supply the necessary material.

"It will, of course, be necessary for operators to plan their purchases carefully to keep their inventories in balance," he said. "They should purchase minimum quantities necessary and select sizes best suited to complement their present inventories."

Administrator Ickes said there is a good prospect that there will be some relaxation of restrictions on producers materials after V-E day. Domestic drilling would thus be stepped up, but PAW will continue to exercise control over locations, etc., Ickes said.

Present production, Deputy Administrator Davies said, is around 5,100,000 barrels daily, the limit without endangering the future of our reserves. To meet war demands, Ickes added, it will be necessary to supplement domestic supplies with foreign oil, production of which is increasing steadily.

Restrictions Continued On Tight Tubular Goods

The War Production Board last week revoked all schedules under Limitation Order L-211, covering steel products, except those applying to oil country tubular goods and steel wire rope and strand.

Under the order, WPB was empowered to establish sizes, shapes and specifications for the various steel products.

The tubular goods situation remains tight and it was indicated that it may be necessary to keep restrictions in force for some months, even though other product regulations may be eased off.

The steel situation, generally, is still serious and no general release of the metal is seen likely in the near future.

Berge Hits at Private International Cartels

Government control of industry in peacetime would involve the setting of quotas on production, the fixing of price levels and the determination of methods of production and distribution, contrary to all America tradition, it was declared May 3 by Assistant Attorney General Wendell Berge.

At the same time, the head of the Justice Department anti-trust division said, private international cartels must not be permitted to arise in the postwar period.

As a middle course between cartels and government control, Berge urged removal of prohibitive tariffs, vigorous application of the anti-trust laws in this country and collaboration with other nations in the reconstruction of world markets.

Drilling Cost Option by Resolution

Legislation definitely making the option on intangible drilling costs a part of the revenue law is expected to take the form of a declaration of policy by congress that it has been its intent that the option be allowed.

A concurrent resolution to that effect has been introduced by Representative Robert L. Doughton, chairman of the House Ways and Means Committee, and may be taken as representing the views of that group.

Doughton's resolution provides that "in the public interest the Congress hereby declares that by the re-enactment, in the various revenue acts beginning with the Revenue Act of 1918, of the provisions of section 23 of the Internal Revenue Code and of the corresponding sections of prior revenue acts allowing a deduction for ordinary and necessary business expenses, and by the enactment of the provisions of section 711 (b) (1) of the Internal Revenue Code relating to the deduction for intangible drilling and development costs in the case of oil and gas wells, the Congress has recognized and approved the provisions of section 29.23 (m)-16 of Treasury Regulations 111 and the corresponding provisions of prior Treasury Regulations granting the option to deduct as expenses such intangible drilling and development costs."

Oil industry representatives in Washington expressed belief that Doughton's resolution will solve the problem raised by the recent Circuit Court decision in the F. H. E. case. A number of other bills have been introduced to deal with the question by amending the Internal Revenue Code to provide specifically for the option, but it is expected that the committee will send Doughton's resolution to the floor for action.

Tax Relief After Military Victories Talked by Group

Retention of all present taxes until after the defeat of Japan was forecast last week as the joint House-Senate Committee on Postwar Tax Problems studied a program for interim and postwar relief laid before it by Treasury and congressional tax experts.

For the period between V-E and V-J days it has been recommended that tax relief be confined to measures which would ease the situation of business during conversion. These would include speeding up refunds attributable to carry-backs of net operating losses, unused excess profits taxes and recomputation of deductions for amortization of emergency facilities; making available the postwar credit of 10 percent of the excess profits tax for tax liabilities of 1944 and subsequent years; advancing to next January 1 of the maturity date of outstanding postwar refund bonds, and increasing specific exemption from excess profits tax from $10,000 to $25,000, effective for 1946.

After V-J day, it was recommended, a general overhauling of the tax structure and a lightening of the rates—individual, corporation, excise—would be in order.

Kelly to PAW

Appointment of Richmond K. Kelly of Maplewood, New Jersey, as assistant director of the supply and transportation division in charge of the tanker and inland waterways sections of PAW.

Kelly, who will succeed W. R. Lang, who resigned several months ago, was formerly assistant vice president and marine manager of Tide Water Associated Oil Company's eastern division.

James E. Pew Is 1945 Hanlon Award Recipient

James E. Pew, director, Natural Gas-Natural Gasoline Division, Petroleum Administration for War, has been given the Hanlon award, the highest honor in the natural gasoline industry and one of the ranking merit awards in the petroleum industry. The ceremony took place May 2 in Dallas where the board of directors of the Natural Gasoline Association of America held a meeting in lieu of the annual convention.

James E. Pew

Pew is the ninth recipient of the award. Presentation was made by James W. Vaiden, Skelly Oil Company, NGAA president. The citation read in part:

".....his untiring efforts in coordinating the war-time activities of the natural gasoline and condensate industries with those of the entire oil program; his continued and forceful advocacy of a broader use of the products of the industries in the manufacture of critically needed war materials; and the effective manner in which he stimulated and directed the production and distribution of products for which there was the most pressing need, not only resulted in a great contribution to the total war effort but brought a new realization to the industries he represented of their own potentialities."

Association officers elected for the coming year include: J. H. Dunn, Amarillo, Texas, president; Paul M. Raigorodsky, Tulsa, J. B. Atkins, Shreveport, Louisiana, and C. R. Williams, Houston, vice presidents.

Companies elected to serve on the board of directors for a two-year term are: J. S. Abercrombie Company; Hagy, Harrington & Marsh; Sun Oil Company; Continental Oil Company; Cities Service Oil Company; Barnsdall Oil Corporation; Lone Star Producing Company; Owens, Libby-Owens Gas Company; Parade Company; Shamrock Oil and Gas Corporation; Shell Oil Company, Inc.; Union Oil Company of California; and Virginia Gasoline and Oil Company.

Petroleum Supply Problems Being Discussed in London

Three PAW officials are in London for the semi-annual conference on the United Nations Petroleum Supply Program.

Jerry A. Cogan, associate director of the program division; C. Marvin Case, chief of the operations section of the foreign refining division, and Frank P. Donohue, chief of the foreign production section of the foreign production division, PAW representatives, will be joined soon by Howard W. Page, chief of the program division.

Also present will be representatives of the Army-Navy Petroleum Board, the Foreign Economic Administration and the War Shipping Administration to work with representatives of the British Oil Control Board in formulating a program for effective supply and distribution of petroleum from the areas in which British and American oil firms operate.

To be developed is information on all sources of petroleum, not only to meet the military requirements of the United Nations but also those of civilians, and to prepare estimates of supply and required destinations of each individual product for the balance of this year and for 1946.

Dutch Oil Contemplated In Lend-Lease Agreement

Consummation of a lend-lease agreement with the Netherlands contemplating an eventual supply of oil and rubber from the Netherlands East Indies has been anounced by the State Department.

Like the agreements previously made with France and Belgium, the Netherlands agreement provides that the Dutch government may purchase any supplies that become available for delivery too late to be of use in the prosecution of the war. Payment for such supplies would be in equal instalments beginning July 1, 1946, or the first day of July following delivery, whichever is later, and ending July 1, 1975, with interest at 2⅜ percent.

The department pointed out that the agreement will enable the Netherlands to participate in the war against Japan. No estimate was made of the volume of oil and rubber which may be had from the Netherlands East Indies upon their liberation, but the supplies which the United States is to provide under the agreement include $10 million worth of petroleum.

FTC Finds It Difficult to Say How Much Oil U. S. Will Import

Estimates of the possible postwar imports of petroleum are difficult to develop, the Federal Trade Commission told Congress last week in the first of a series of reports on the outlook for international trade in major commodities.

"The question how much crude petroleum might be imported, under given assumptions with respect to demand for the derivative products or to rates of duty on imports, depends primarily on the volume of product of crude petroleum in the United States," the commission held. "To a less extent it depends on the quantity of crude petroleum and refined petroleum products exported from the United States. It should be noted, however, that, under any circumstances which may arise, there are likely to be both considerable imports and considerable exports of petroleum and its products."

There are very few products the output of which in the future is so difficult to forecast as that of crude petroleum, the report declared, citing as factors the uncertainty as to how rapidly new reserves will be discovered in the future and the condition of existing fields, now being heavily drained, at the end of the war.

Involved in the international picture is not only this uncertainty—since the volume of domestic production will have an effect on both exports and imports, but also the question of the greater production which is being developed in other areas of the world.

"The relation between domestic production and imports of crude petroleum is not, of course, determined solely by the degree to which domestic production is able to meet domestic requirements for the refined products," the commission pointed out in discussing the influence of imports on domestic output. "Imports may affect production. A relative lowering of foreign as compared with domestic costs would (subject to possible modifying influence of international corporate relationships) tend to cause United States imports (crude or refined) to increase, and United States exports to decrease, either of which would tend to cut into the domestic production of crude.

"Moreover, changes in the rate of duty on crude petroleum may affect imports, and thus affect domestic production. Imports would tend to be larger if the rate should remain at the present reduced level of 10½ cents per barrel, than if it should revert to the 1939 rate of 21 cents. Conversely, the imports would tend to be less if the tax should be raised to 50 percent above the 1939 rate. It seems impossible, however, to give any numerical statement of the probable magnitude of these effects, particularly in view of thte circumstances, other than tariff rates, which have been mentioned above as influencing the international trade in petroleum products."

Stiffer Pacific Coast Rationing

Touching upon varied phases of the oil situation at a news conference May 3, Administrator Ickes indicated that the Pacific Coast may be in for stiffer rationing, but will not be permitted to go on lower rations than the rest of the country.

"We will need a terrific lot of oil in the Pacific war," he said. "Whether that will mean temporary or longer restrictions on the Pacific Coast is hard to say, and depends on what we can get out there on single-track railroads and through the canal."

The study of the tidelands situation, as presented in applications for leases on California off-shore lands, is still continuing, Ickes said. A report on the position of the Department of Justice and an outline of what it might do in the situation has been received from the Attorney General, he said, but refused to reveal its contents.

Cutting of $7 million from the Interior Department's appropriation for synthetic fuel research, if affirmed by the Senate, will be a serious blow to that program, he said.

More 18-30 Deferments But Next Group Age Hit Heavily

An additional 2000 deferments of men in the 18-30 age group has been granted PAW by the interagency committee covering that agency, but the point of concern now is not that group but the next higher age group, into which local boards are preparing to dip heavily.

Generally, it is believed that the additional deferments granted by the War Manpower Commission, plus the 30 percent originally allowed, and the rejections for physical reasons, will leave the industry not too bad off as concerns its youngest workers.

Local draft boards, however, are reclassifying large numbers of men in the 30-37 age group, which includes a very large percentage of the men most needed in the industry, and, unless military calls are sharply reduced, will have to draw heavily on that group throughout the remainder of the year.

Texas Gas Committee to Await National Groups Meetings

The governor's committee, named to recommend a policy for Texas in the battle against FPC encroachment, meeting in Austin last week decided to drop the suggestion for a legislation resolution reaffirming Texas' stand on state's rights and emphasizing the right of each state to control production of its natural resources. Several other states are involved and it was thought that such a declaration might contain statements inimical to the interests with which Texas will be joined.

Chairman Olin Culberson announced that he had received reports that Kentucky, Arkansas, Louisiana, Ohio, and Kansas would make appearances at these hearings. Other states had not been heard from.

George A. Hill, Jr., of Houston told of creation of a national policy committee on gas, consisting of 25 members, and a similar committee from the oil industry with 18 members, organized to join in the fight. All groups are urged to join together and present a united front when the FPC hearings are held.

The committee's recommendations to Governor Stevenson will await meetings of the national committees to be held May 13 at Washington. This committee scheduled its next meeting for May 30 at Austin.

Cycling Plant Asked

The Texas Railroad Commission heard May 3 application of Shell Oil Company, Inc., for construction of a cycling plant to serve the gas and distillate areas of Brushy Creek and Hope in Lavaca and DeWitt counties on the Lower Texas Coast. Proposed capacity is 60 million cubic feet daily.

The two fields are producing from the Carrizo Wilcox formation. Wells have tested 2.09, 1.918, 1.552 and 1.508 gallons per thousand of butanes, plus.

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY. All figures indicate daily averages, in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED May 5	April 28
Alabama	500	300
Arkansas	79,800	79,900
California	918,500	916,050
Colorado	10,250	9,050
Florida	15	15
Illinois	195,200	200,300
Indiana	11,650	11,400
Kansas	253,150	264,600
Kentucky	27,600	25,750
Louisiana	366,300	366,050
North Louisiana	71,300	71,050
South Louisiana	295,000	295,000
Michigan	48,000	43,300
Mississippi	54,900	52,400
Missouri	100	100
Montana	26,405	22,540
Nebraska	900	900
New Mexico	105,650	105,650
New York	13,350	13,300
Ohio	6,750	6,450
Oklahoma	384,350	363,550
Pennsylvania	35,800	36,250
Tennessee	35	35
Texas	2,170,300	2,170,500
Upper Gulf Coast	565,200	565,200
East Texas Field	378,000	378,100
Rest of Eastern Texas	145,500	145,500
Lower Gulf Coast	249,750	249,750
Southwest Texas	81,400	81,400
South Central Texas	21,000	21,000
West Texas	489,450	489,550
North Texas	150,050	150,050
Panhandle	89,950	89,950
West Virginia	8,150	8,150
Wyoming	106,900	106,050
Total United States	*4,824,555	4,802,590

* New all time peak.

BUREAU OF MINES REPORT

Total stocks, foreign and domestic, April 28, as reported by the Bureau of Mines were: 223,474,000 barrels with a daily average production of 4,805,000; and runs to stills 4,780,000.

Oil and Gas Conservation Steps Are Taken at Mississippi Statewide Meet

Mississippi officials and operators showed every desire for proper development of the state's natural resources at the fiirst general statewide hearing in Jackson, May 1, attended by 125 oil men. Governor Thomas L. Bailey evinced much interest in conservation and pledged the state's Oil & Gas board to "full development of our resources to gain the end of conservation." He indicated that a group of experienced men may be named as an advisory committee to the board which, with the exception of H. M. Morse, the supervisor, is without oil experience.

Mid-Continent Oil & Gas Association's (Mississippi-Alabama division) conservation committee resolutions, read at the meeting, recognized importance of the state's reserves and urged adoption of a five-point conservation policy which, besides obtaining greatest ultimate recovery, would assure each producer and landowner opportunity to recover his just share of petroleum and provide for fair distribution of the total outlet of oil, condensate or gas between fields and reservoirs. The association's membership includes all principal operators.

Rules suggested for the six fields under particular advisement met with little opposition. Superior Oil Company opposed compulsory pooling in event operators fail to unitize voluntarily into full development units and also showed reluctance to give additional powers to authorities at a time when the trend was too much regulation of private industry.

The California Company's L. M. Lamar defended the principle of compulsory pooling, saying his company had made no such provision in their suggested Cranfield rules simply because they doubted the authority delegated by the statutes would allow it. By practice his company has found compulsory pooling an almost indispensable adjunct to good conservation, and he pointed out that it is the duty of the board to protect the reasonable rights of all operators in a pool.

Gulf's Suggestions

In suggesting rules for Gwinville, Baxterville, and Soso fields, Gulf Refining Company stated it sought rules that might be used as a pattern for future statewide rulings, and incorporated every consideration to be expected in the 28 rules of the proposed order, recognizing that any field might develop into an oil, gas, or gas-cap reservoir. Forty-acre spacing patterns for all oil development and 320-acre units for gas met with general approval, although Arthur Levy of Fohs Oil Company raised the point that rules should not specify the exact quarter-section for a location because structural conditions there might be unfavorable.

New features in rules for the Cranfield field, presented by The California Company, were necessary due to the character of the land subdivisions, since there are no regular governmental sections, and most leases are large tracts. Instead of calling for 40-acre units as such, the rules call for drilling to a density of one oil well to 40 acres on each lease and a density of one well to 320 acres in case of gas. Peculiarities of the field which has a large gas cap with a narrow oil belt, necessitate a novel method of arriving at classification of acreage. Oil acreage in a lease would be the number of oil wells multiplied by 40, the resultant area being then subtracted from the total lease area to obtain the gas acreage. The lease is then allowed no more gas wells than the total gas acreage divided by 320. Recognition is given of reservoir damage caused by excessive water production, and provides that total fluid withdrawal cannot be greater than twice the oil allowable. Gas production from a single well is limited to 600,000 cubic feet daily, exclusive of fuel for drilling operations or that returned to the reservoir. This is considered a field suitable for recycling and hope was voiced that legislation might be enacted or opinions given on statutes which would allow integration to operate the field as a unit.

Humble Oil & Refining Company asked 640-acre spacing for gas development in the Hub field and The Pure Oil Company asked that action be deferred on its Carthage Point field.

J. Ed Heston of the production division of PAW, Washington, and J. H. Graham, District 3 director of natural gas and natural gasoline, Houston, reminded that they attended as interested observers only.

Operators feel this is a good time to test validity of any compulsory pooling action taken by the board so that if negatived by the courts, new legislation could be sought.

Mississippi's Oil & Gas Board is composed of Governor Bailey as chairman, Attorney General Greek L. Rice, who is also secretary, Land Commissioner Guy McCullen, and H. M. Morse, supervisor.

War Control Changes for Period One Being Studied

Tentative provisions of a report now being prepared by the WPB Committee on Period One, which will be used as a guide in modifying and relaxing war and war-supporting production controls during the period between the defeat of Germany and victory over Japan, has been submitted to PAW and other agencies. Contents of the report will be made public as soon as possible after approval of all the agencies.

In general, such acceptance has already been indicated, but a number of suggestions for clarification or additions have been submitted.

PAW Restricts Drilling in Hugoton, Kansas-Oklahoma

PAW has ordered that no new well may be drilled in the Oklahoma or Kansas sector of the Hugoton gas field after May 1. The Texas area was not included.

The order is designed to restrict use of steel for wells that would be completed and not immediately connected to pipe lines. Many wells in both states now await pipe-line connection and PAW said the steel is required for wells that must be drilled for the war effort.

There were 104 test wells drilling on April 30 in Oklahoma and Kansas.

Kansas Corporation Commission just before the PAW order set an allowable of 7,605,105,000 feet for the area as against 6,576,763,000 feet during March. Only 10 of the 410 Kansas wells were reported without pipe-line connections.

Oklahoma Corporation Commission said the purchasers of gas in Texas County had nominated 6,802,000,000 feet against 6,664,000,000 feet during April. Oklahoma reports indicated 199 completions in the Guymon area, with only a dozen shut in for want of an outlet.

Arkansas Natural Gas Makes Official Changes

D. W. Harris, president of Arkansas Natural Gas Corporation and subsidiaries, including Arkansas Fuel Oil and Arkansas-Louisiana Gas Company, has resigned effective May 15.

A. H. Weyland will be promoted to vice president and general manager, the latter position formerly held by Harris. H. T. Goss will succeed Weyland and M. J. Lasseigne will become treasurer of the company and subsidiaries. T. W. Utweiler, chief engineer of Cities Service Companies is to become president of the organization and its subsidiaries.

B. R. Muirhead, resigned as treasurer of the corporation and certain subsidiaries, will be succeeded by Lasseigne.

Priority Rules Eased For Foreign Operations

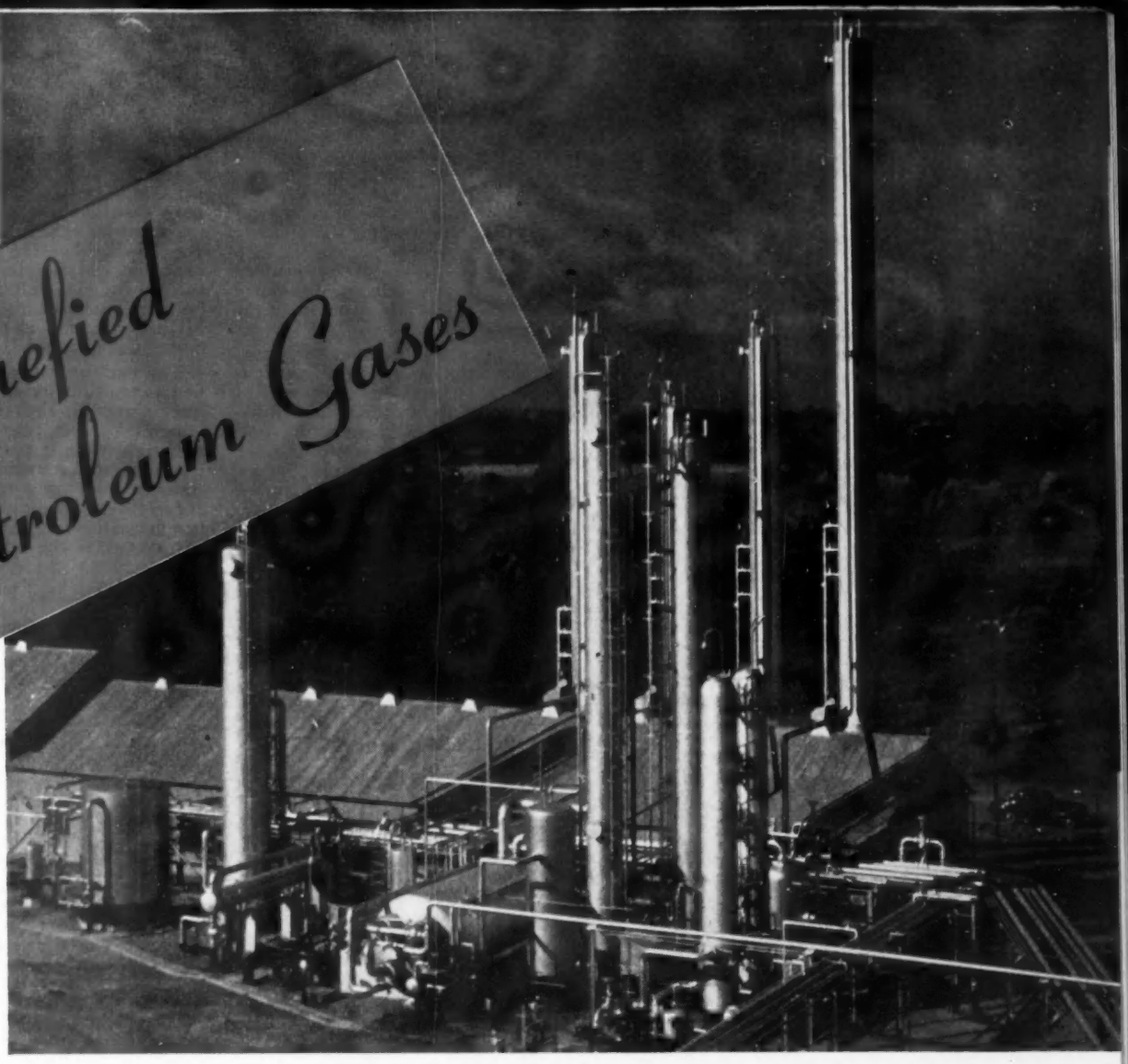
Acting on recommendation of PAW, the WPB on May 1 amended Priorities Regulation 9, dealing with priorities assistance for the foreign petroleum industry, to raise from $10,000 to $25,000 the amount that may be expended for oil field and refining materials, etc. Purpose is to put foreign operators on a par with domestic and speed up handling of applications.

Montana In Compact

Montana's Governor Sam Ford on May 5 officially made Montana the fourteenth member of the Interstate Oil Compact Commission by signing a counterpart of the interstate agreement.

West Virginia's legislature at its session just closed also enacted legislation permitting that state's membership and Governor Meadows is expected to execute the agreement soon.

Liquefied Petroleum Gases



Warren Petroleum Corporation's plant at Crossville, Illinois, showing modern distillation and fractionation system.

By W. H. HARTS, Vice President,
Warren Petroleum Corporation, Tulsa, Oklahoma

FOR many years the various phases of oil production have gradually become more closely knitted. The practice of each department acting as an individual unit has disappeared and now the producing, manufacturing, purchasing and other divisions have more or less merged into one efficient unit. This has been brought about by several circumstances such as government regulations, desire to conserve resources, and the necessity for greater efficiency.

The natural gasoline and liquefied petroleum gas industry has gradually emerged from the position of a necessary evil to a recognized agency designed to aid in producing more oil and petroleum products at a lower cost. This has been brought about by a combination of circumstances, chief among which was the advent of cycling plants and the desire to either voluntarily or involuntarily maintain reservoir pressure through repressuring and secondary-recovery methods.

The natural gasoline and liquefied petroleum gas industry has emerged from the position of a necessary evil and is now a recognized agency aiding in the production of more oil and petroleum products at less cost

Industry's Background

In a discussion of liquefied petroleum gases it might be of some interest to briefly describe some of the history of this rapidly expanding industry.

Bottled gas is not a new idea. In 1810 an Englishman in London formed a company and marketed a few cylinders of bottled gas but his venture proved a failure. Very little was done toward the development of the industry until 1870, when Pintsch gas was developed. This product was used primarily in lighting railway cars.

About 1900, a German chemist, Herman Blau, began experiments with volatile gases produced by cracking oil. In 1907, a plant was built by Blau at Augsburg, Germany. This gas, as first produced, was a malodorous product, carrying various percentages of the different hydrocarbons from methane to gasoline and undoubtedly some hydrogen sulphide. Blau rapidly improved his product, however, and in a very few years not only had numerous branches throughout Germany, but in several foreign countries.

In addition to the original Blau plant at Augsburg, a plant was constructed at Friedrickshafen to supply gas to the Zeppelin Company for lighter-than-air craft. The Graf Zeppelin was fueled with a gas having a specific gravity almost equivalent to propane.

First In U. S.

Liquefied petroleum gas had still not found its place in industry and was forced to await the refining of a fuel that combined four minimum requirements: 1. Operation at comparative low pressures; 2. Chemical consistency of composition; 3. Availability in large quantities; 4. Low cost to consumer. These requirements were eventually satisfied by the fractionation of butane-propane gases.

The Riverside Oil Company, which operated nine gasoline plants, was the

first manufacturer of liquefied petroleum gas in the United States. A. N. Kerr, the superintendent of that company, pioneered most of the development. The first report on this operation was dated December 24, 1910.

Shortly after this, the American Gasol Company was organized. Work then began on the equipment and appliances necessary to utilize the gas on a commercial scale. As is usually the case, the development of liquefied petroleum gas was sometimes slow and discouraging in the early days.

In 1920, the Carbide & Carbon Chemicals Corporation placed on the market a product which was called "pyrofax" and this was the beginning of the modern era in the business. For the next ten years this company did much to develop improvements so necessary for marketing these lighter hydrocarbons.

By this time a number of oil companies were becoming active in exploiting and developing the business and its phenomenal growth is a monument to the faith and success of these pioneers.

In defining liquefied petroleum gas, it might be described as being any petroleum hydrocarbon that in a free state is a gas or vapor at atmospheric conditions, namely, 14.4 pounds absolute and 60° F., but which can be liquefied by applying pressure, reducing the temperature, or both.

Gas and oil produced from a well are essentially the same from a chemical standpoint, the only difference being that oil has proportionately more carbon in ratio to the amount of hydrogen.

A large percentage of liquefied petroleum gases is produced as by-products of natural gasoline plants, although most of the modern refineries have installed recovery plants to process their waste or so-called "fixed" gases.

While the liquid gas produced at a refinery is slightly different in its chemical composition, the difference is so slight that it does not alter the usages to any appreciable extent. Where the natural gasoline plant produces propane the refinery produces propylene. The close relationship between these gases is such that the average domestic consumer would never know by the performance of the fuel whether he is using propane or propylene.

It is well to remember that the gasoline in an automobile is not one particular substance, but may be composed of hundreds of different products, each differing from the other in structure and chemical ratio. These hydrocarbons vary between summer and winter and even between high and low altitudes. They consist of both low and high octane rating ingredients and the dividing and eliminating of certain of these are what make high and low octane fuel. It might be well to explain the meaning of octane number. In 1926, Dr. Graham Edgar, of the Ethyl Corporation, proposed this scale. He chose a fuel with good anti-knock characteristics, iso-octane, and called it "100." He then chose a material with a very poor knock characteristic, heptane, and called it "0" and from these two materials, he created the present scale. These two fuels are mixed in varying proportions until a mixture is attained which has exactly the same knock characteristics as the fuel being tested and the percentage of the iso-octane in the mixture is the octane rating of the fuel being tested.

In general, it may be said that in the natural state the higher, or more volatile, the hydrocarbons, the higher the octane rating; and, for this reason, the liquefied petroleum gases, which are too volatile for any great use in regular gasoline, are excellent for uses where high octane is required and the fuel can be used as a gas. When we further realize that with the exception of iso-octane practically no part of crude oil can be used in its natural condition in 100-octane gasoline, it becomes apparent that inasmuch as reforming is necessary anyway, the higher the octane of the original material the higher the octane of the reformed product. Thus, all of the liquefied petroleum gases can be used as base materials in reforming for future manufacture into 100 octane.

The various gases considered as liquefied petroleum gases in a natural gasoline plant operation are (methane, ethane), propane, iso-butane and butane, although the first two mentioned are not generally considered, due to the extremely high pressure required to condense them to a liquid. These two gases comprise the major part of the natural gas burned in the home.

Quickly Evaporate

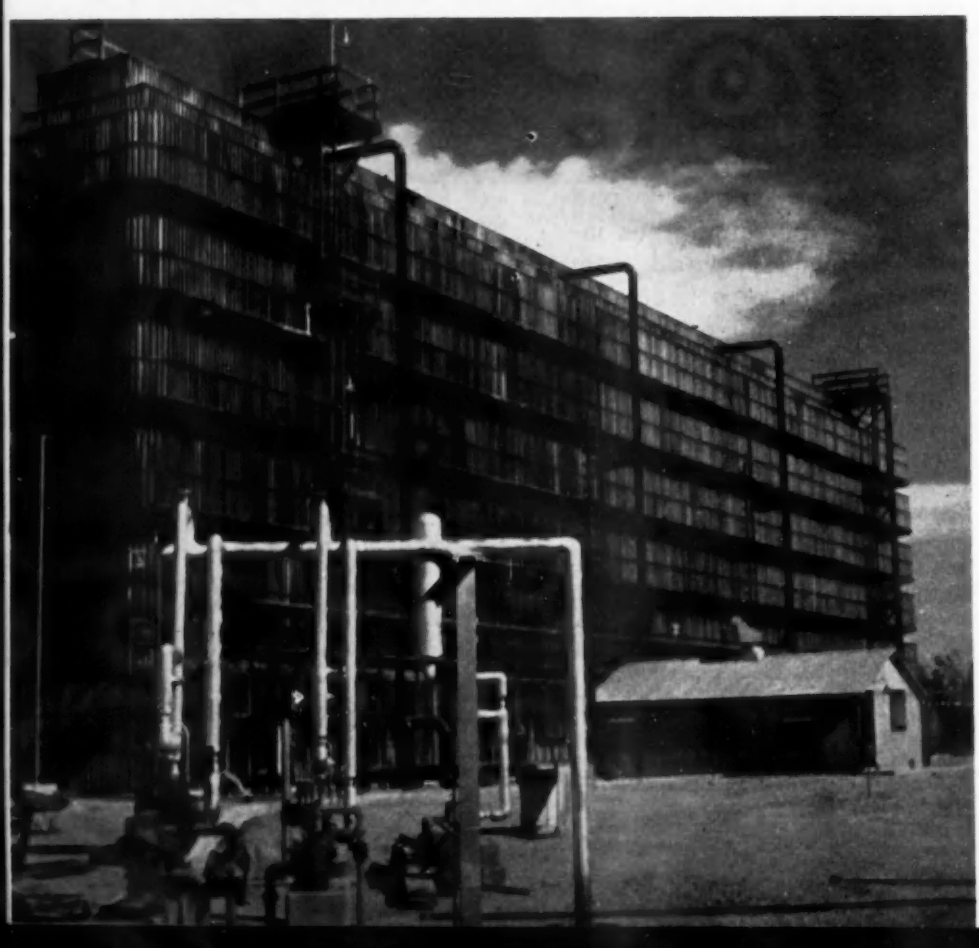
Propane, iso-butane and butane, quickly evaporate if exposed to the atmosphere and therefore must be continually stored in closed containers under pressure. Within the experience of most men in the oil business all three of these products were largely wasted and considered of no value. In 1944 a total of 785 million gallons of liquid gases were sold as such. Approximately two billion gallons went into 100-octane gasoline and 200 million gallons were used in the manufacture of synthetic rubber.

The method of manufacture of liquefied petroleum gas in a natural gasoline plant most commonly used is a combination of compression absorption and, in some cases, refrigeration. The raw or green gas is gathered from the wells or traps in the field and conducted through pipe lines to a central plant where it is compressed and cooled. Then it is run through an absorber where a mineral seal oil absorbs the gasoline or heavy hydrocarbons, together with a portion or nearly all of the liquefied petroleum gases, depending upon the design of the plant. From the absorber, the oil, saturated with these various hydrocarbons, is heated and stripped of the gases in a still. The vapors from the still are then cooled and condensed to what is called "raw gasoline." The raw gasoline is introduced into a series of fractionating towers varying from two to five—depending upon the number of cuts and kind of products desired. In most plants with three or more fractionators the first tower removes all of the methane and ethane that may be in the gasoline stock, the next tower removes the propane, and the third tower removes the butanes and leaves a natural gasoline of desired vapor pressure—usually from 12 pounds Reed vapor pressure to 26 pounds.

If the iso-butane is desired, a fourth tower is added and the butanes from the No. 3 column are split to form iso-butane overhead and normal butane as a bottom product. In some cases, especially since the war, iso-pentane has been needed as a commercially pure product. In this event, still another fractionator is required where a gasoline, that has been completely debutanized in the third tower, is fed into that tower and the iso-pentane is fractionated out of the gasoline.

The handling and transportation of

Cooling tower at Warren Petroleum Corporation's Crossville, Illinois, plant.

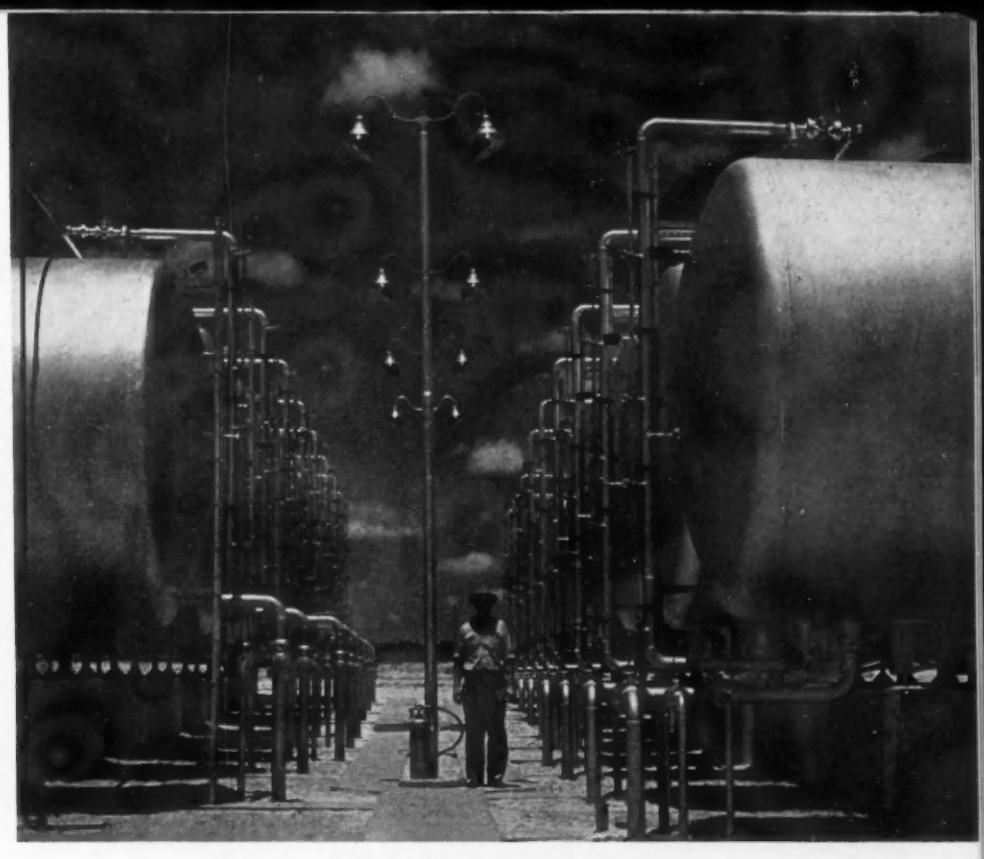


the liquid gases has made great strides since the beginning by Herman Blau. When Sloan and Zook were first marketing liquid gas in the United States the purchaser paid freight on almost seven pounds of metal for each pound of gas received. Today a purchaser pays freight on less than one pound of steel for each pound of gas. While this may appear to have been tough on the railroads it has not proven to be so due to the tremendous increase in volume that is being shipped. Thus progress in the industry has helped not only the marketer but the railroad as well. In the beginning of this industry due to excessive pressure (Blau gas had a vapor pressure of 1500 pounds) it was of course necessary to use small heavy cylinders. A vessel of any size for transportation was entirely out of the question. Today, due to lower pressures and better steels we not only have larger cylinders but ship both by tank truck and railroad tank cars. It is a far step from the early days of the industry with prohibitive freight and installation costs. In those days the liquid gas man was pretty much of a social outcast. Many towns prohibited the use of his products in the city limits; he was barely tolerated by the Interstate Commerce Commission and the Bureau of Explosives and he was not worthy of mention by the Underwriters Laboratories. Today, a domestic consumer can be furnished with a complete bottled gas unit bearing the Underwriters stamp of approval. In Arkansas alone there are more than 25,000 such installations.

The use of liquefied petroleum gas for a wide variety of industrial heating operations is a major outlet for these products. Because of economy, high purity, efficiency of combustion, ease of control and adaptability, butane and propane are now used by hundreds of industrial concerns throughout the country for such important operations as metal cutting, paint drying, electric generation, glass annealing, hardening, die casting, air conditioning, forging, galvanizing, water pumping, and many others. The industries equipped to use these fuels are now engaged in manufacturing vital war materials and in many cases have greatly increased their fuel requirements. New war material plants located beyond the reach of natural gas lines, or where gas supplies are not sufficient are depending on the liquefied petroleum gas industry to supply their demands for fuel. Many plants with other sources of supply use liquefied petroleum gas for a standby in the event the regular supply fails. Thus far, such requirements have been fully met by the industry. The supply of special tank cars and the freight handling ability of the railroads are important factors in keeping this "natural gas on wheels" speeding to industrial consumers. A freight car to haul propane costs three times as much as one to haul gasoline.

Use in Autos

Shortly before the war considerable progress was made toward the use of propane and butane in automobiles as a motive fuel. Few changes were necessary to an ordinary auto to enable the use of these products. These uses have been stopped completely by war orders and any progress must now await the war's end. Several experts think that there is a good possibility of propane replacing high octane gasoline for testing of automobile engines at manufacturing plants. Efforts along these lines have thus far been rather limited but it is hopeful that large quantities of propane can be used for this purpose and thus release more high octane fuel.



Modern bulk liquefied petroleum gas storage facilities.

The gas utility field has found butane and propane of value in supplying gas through pipe lines to small cities at reasonable rates. More than 100 communities are so served and the utilities have benefited financially from this new and improved method. Liquefied petroleum gas is also used as standby for many large cities using natural gas or mixed gas. In Chicago, Peoples Gas Company has large capacity butane storage and during several pipe line interruptions the economy and adaptability of butane as a substitute gas has been proven. The American Gas Association Testing Laboratory has contributed valuable technical data on the use of liquefied petroleum gas as a substitute for manufactured, mixed and natural gas.

Liquefied petroleum gas as a fuel for internal combustion engines has had considerable development on the West Coast where large excess supplies of the product and high gasoline costs gave a highly favorable economic margin to the user. In stationary engines, oil well drilling rigs, switching locomotives, earth moving and mining equipment, the use of liquefied petroleum gas is increasing.

Use In Plastics

Butanes and propane are beginning to be used extensively in the chemical business and while most of these uses are very "hush-hush" due to the war effort, some can be discussed. Two companies in South Texas use propane in the manufacture of styrene and another plant manufactures plastics from the same raw material. These plastics now go into the war effort but, in the post-war era, will go into new homes, automobiles, kitchen utensils and many other uses. Another large Gulf Coast plant, processing 200,000 gallons of propane daily, will for the present manufacture acetic acid, but later undoubtedly will convert to the manufacture of literally hundreds of civilian products.

One of the most secretive products made from liquefied petroleum gases, is at the present time named after one of its components, "hexamine." It is an explosive far more powerful than TNT and yet much safer to handle and so even the daily raids we read about over Japan and Germany are a result of research in the oil business.

A few of the many hundreds of products made from lighter hydrocarbons are alcohol, synthetic rubber, formaldehyde, methanol, used for anti-freeze, acetylene, ammonia, benzine and toluene.

Nearly every time a new chemical product with beneficial qualities is produced this same product has hazardous characteristics which require careful and intelligent handling to prevent accidents. Liquefied petroleum gas is no exception to this generality and has long been recognized by the responsible elements of the industry. Through cooperative work with insurance companies, state and federal regulatory bodies and safety organizations, the industry has established a record of safety than can be pointed to with pride.

Army Jeeps Appear In Oklahoma Oil Fields

The first Army jeeps to make their appearance in Oklahoma oil fields are now being operated by the Phillips Petroleum Company and Sohio Petroleum Company in the West Edmond pool. A dozen of the commander type, delivered last week, are being used for pick-up tasks, pipe line switchers and as welding trucks.

Army Pipe Lines in Europe

A welder of the engineers joins a section of the petroleum pipe line being laid in France

JUST how much of exactly what products are moving through how many Army-built pipe lines in the European theatre is still a matter of military secrecy—but oil supplies are adequate to carry our troops to Berlin, according to Lt. Col. Arthur Duncan Small, chief of the petroleum branch, war plans division, of the Engineer Corps.

And Col. Small, professional petroleum consulting engineer when he was commissioned as a major in 1942, with his assistant, Capt. J. J. King, ought to know, for they are the men who have guided the design of the military pipe line systems, arranged for procurement of the equipment, set up the training course for pipe line builders and produced the technical manual which is the pipeliners' bible.

Secrecy Maintained

Even today, with victory in Europe almost within grasp, the Army is maintaining the secrecy which has raised so many puzzles for the enemy, but lifted the curtain high enough to disclose that there are at least three important pipe line systems running from the coast of Europe toward the heart of Germany in the north, the center and the south of our advancing lines.

One of these systems consists of three 6-inch pipes, "jazzed up" by additional pumping stations so that each can move as much as 12,000 barrels of gasoline daily as against the 9000 barrels or so which is normal military operational practice. Another system is made up of one 6-inch and four 4-inch pipe lines, and still another of one 6-inch and one 4-inch.

Two of these systems run through France, one starting at Cherbourg and the other near Marseilles, while the third is operating in Belgium (and probably in Germany now), and to get them down, the Engineer Corps pipeliners sometimes worked while shells and bullets whistled overhead.

Pipe line operations started on D-Day plus 3, and by D-Day plus 36 it was possible for tankships to unload to shore, through lines laid on docks where possible and buoyed up on pontoons where shore approaches were bad. By D-Day plus 75 there was large storage capacity erected close to the beaches and products, mostly gasoline, were moving to air fields and tank depots close to the front.

Unlike the India-Burma-China pipe line which carries a considerable volume of diesel fuel by batch lotting, little of that product has been carried by pipe line in France since the requirement for both aviation gasoline and motor fuel has high priority. The gasoline is pumped into bolted steel storage tankage at key points along the lines and at airfields. Storage capacity on the Western front of both captured and erected tankage is in the neighborhood of 5,000,000 barrels.

Pipe Standardized

All of the material and equipment for the pipe line systems had to be transported to the site from the United States, although in some areas pipe line and some storage tanks were found to be in usable condition. The Engineer Corps now is standardized on the use of 4- and 6-inch thin-wall pipe in 20-foot sections, the former weighing about 80 pounds and the latter 180 pounds per joint. A line-pumping unit, a portable centrifugal pumping station, ready to go, runs around 18 tons.

Originally, some effort was made to

camouflage the pipe to harmonize with its location, but such attempts were later dropped. The line is laid on the surface, but a 4- or 6-inch pipe, while easy to spot from the air, is hard to hit and none has been lost through enemy action. When rivers must be crossed, light pipe is carried over on wire slings or heavier pipe is welded and dragged across on the bottom.

No efforts have been made to carry the pipe line systems into the fighting zones. Ordinarily, they stop when they reach a railroad that can be put back into shape, and since resuscitating bombed-out railroads is a specialty of the Corps of Engineers, usable rail facilities are usually ready about the time the pipe lines are. For areas not served by railroads, gasoline is canned and moved by truck.

The pipe lining of fuel supplies is one of the innovations developed by the Engineer Corps, and one which has become something of a pet to those other branches of the services which are "consumers."

Pipe line crews were trained for the job of laying lines in difficult terrain under difficult conditions, both in this country and in England, but when it came down to actual operations there frequently weren't enough of the trained men and 50 other units of engineers were impressed and taught while they worked.

Transport Problems

The pipeliners also found themselves up against problems of transport when other and seemingly more important supplies competed with them for the limited facilities, but somehow they got the material through and turned it into finished, operating lines at rates running as high as 30 miles a day. And once the lines were in, of course, there was an immediate relief on the highways and railroads for other material and equipment, as some 36,000 tons of gas a day were run through one of the systems.

LT. COL. ARTHUR SMALL
He oiled the assault on Germany

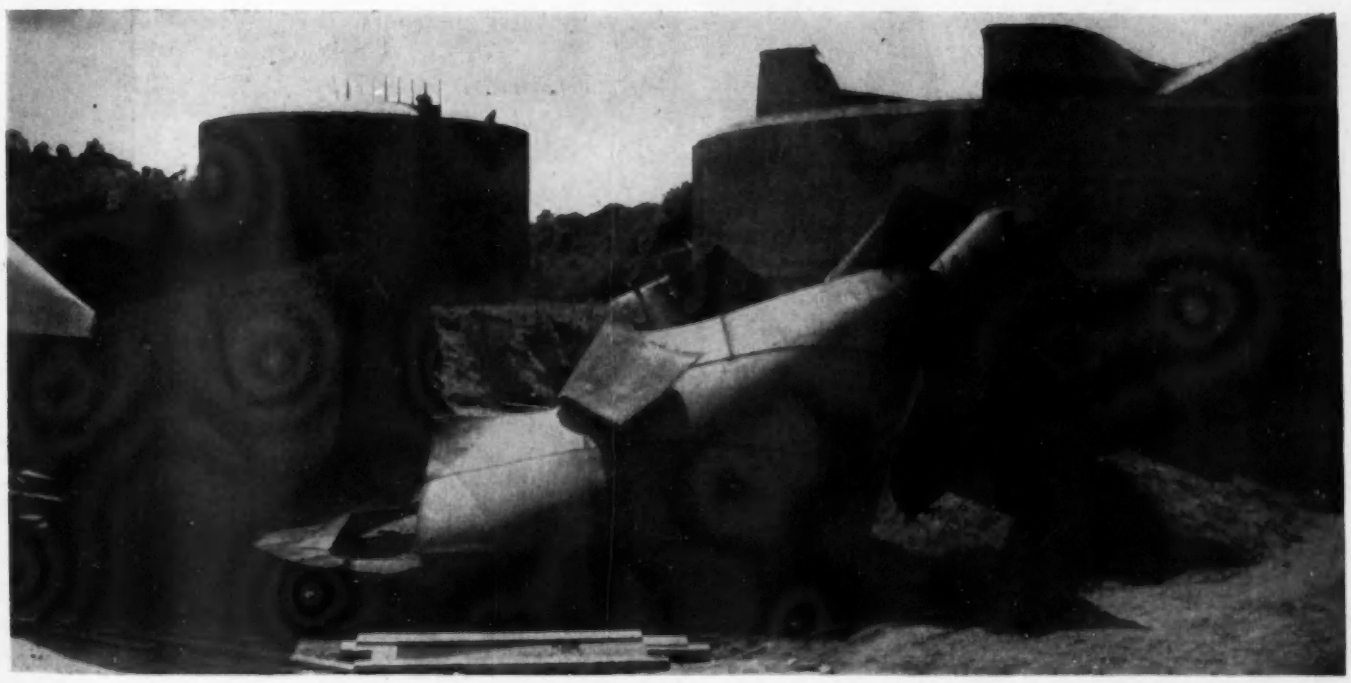
Just how much the pipe line systems have contributed to the advance of our forces against Germany can't be estimated by the volume of product handled. They have done more than provide a steady supply of gasoline for airplanes, trucks and other mobile equipment, by freeing other forms of transportation for heavier loads of other supplies.

Pipe line programs are laid down by boards under the theatre engineer and theatre commander, but the material and equipment for such operations has to be planned and procured at least six months in advance, and this is a job for the engineers through Lt. Col. Small and Capt. King.

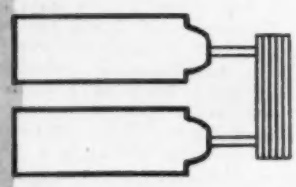
Small, a native of Glasgow, Scotland, 41 years old last New Year's day, attended the University of Tulsa for two years before entering the oil industry He became a professional consulting petroleum engineer back in 1941 and was under contract to a number of oil companies, after having returned to the United States from Sumatra and Java where he was chief production engineer for the Nederlanosch Koloniale. Prior to that, Small was with the Richfield Oil Company in California and the Tidal Pipe Line Company in Tulsa. He was commissioned a major in the Army August 20, 1942, in the Tulsa engineer district with station at Oklahoma City. In September, 1942, he was transferred to Washington as assistant in the petroleum section, operations and training branch, and assumed his present post as chief of the petroleum branch of the war plans division in June, 1943. He was promoted to his present rank on February 14, 1944.

U. T. Graduate

Capt. King, a graduate of The University of Texas in mechanical engineering in 1925 and the South Texas School of Law in 1936, was an engineer with Henry L. Doherty and Company from 1925 to 1927, in natural gas distribution work, and for the next 13 years was engineer and assistant to the superintendent of compressor stations of the United Gas Pipeline Company where he carried out design, construction and operation of natural gas pumping stations, pipe lines, etc. He then joined The Texas Company at Houston as an engineer in the producing department, engaged in design, construction and operation of recycling plants, gasoline plants and pipe lines, from which job he was commissioned in the Army in November, 1942. After attending Officers Training School at Camp Claiborne, Louisiana, he reported to the Office of Chief of Engineers in Washington in December, 1942.

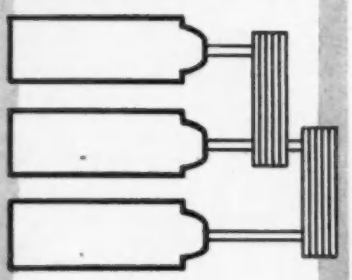


Destroyed and new tanks stand side by side in the tankyard. This is part of the pipe line system that carries oil and gasoline for military purposes.



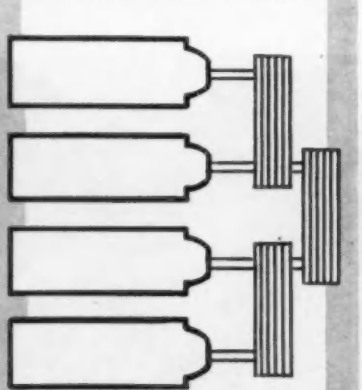
450 hp

The first rigs powered with compounded Cummins Diesels used *two* Model LP-600's, each rated at 225 hp. at 800 rpm., producing a total of 450 hp.



675 hp

Prompted by the success of the two-engine hook-up and also by the trend toward deeper drilling, rig builders fashioned their designs around *three* compounded Model L's which provide a total horsepower output of 675 hp.

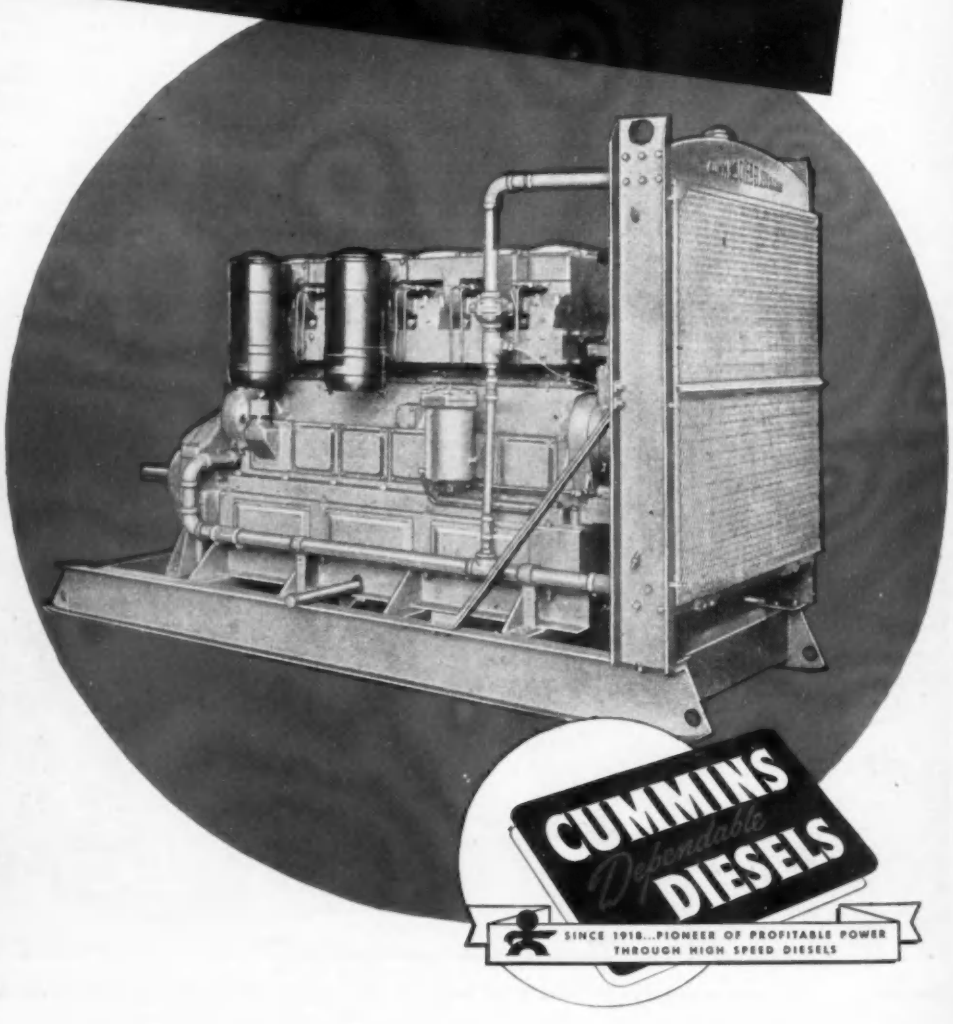


900 hp

Visualizing "deep hole" drilling on an increased scale, manufacturers now have in production rigs which call for *four* compounded L's on the drawworks and two L's compounded on the mud pump.

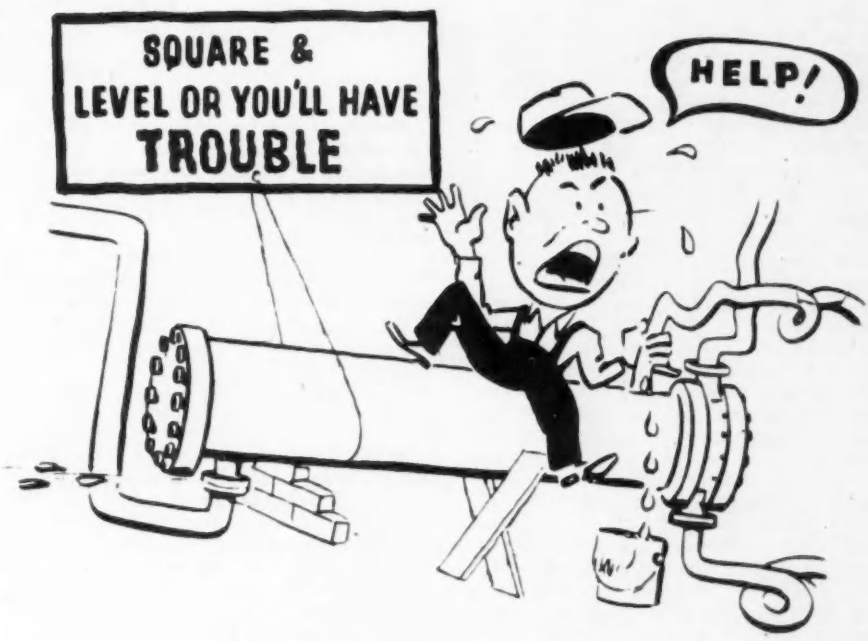
The Cummins Dependable Diesel's claim to faster, cheaper footage is not an idle claim . . . but a claim backed by a 12-year record of proved performance in the toughest oil field service . . . a claim verified by the fact that Cummins Diesels power more rigs in the Mid-Continent area than any other diesel.

CUMMINS ENGINE COMPANY, INC.
Columbus, Indiana



Care and Maintenance Of Heat Exchangers

HEAT exchangers form an important portion of the equipment in nearly all pipe-line stations, the waste heat from the internal-combustion engines being utilized to raise the viscosity—and hence the pumpability—of high viscosity crudes, while at the same time the stream of fluid being pumped can effectively carry away the surplus heat and restore the jacket-circulation water to a temperature within desirable operating temperature ranges. Other applications of heat exchangers are those in which highly compressed gases must be cooled before further processing, or where the temperature must be reduced before admission to long-distance transmission lines.



Installation

The successful operation of a heat exchanger definitely depends upon correct installation, and consequently great care is to be exercised. Obviously, location of the unit is the initial consideration when installing, and the following should be observed:

a. Allow a space equivalent to the tube bundle length for cleaning and bundle removal.

b. Allow a space of three to four feet at the floating head end for convenient removal of shell cover and floating head on units of this design.

Foundations should be sufficiently heavy to allow permanent support without setling, and to absorb any normal vibration from outside causes. Most heat exchangers are equipped with support cradles for horizontal installation, or brackets for vertical installation. The unit should, of course, be leveled and squared to preclude the necessity of forcing pipe connections into place and the possibility of leaks at such connections during operation. If the supports are integral, the foundation bolts at the end opposing the channel should be loosened to allow free expansion and contraction of the shell.

To insure the full rated capacity of the unit, it is important to select the proper pipe sizes. While pipe connections for average conditions are specified on certified drawings, further thought must be given plant conditions, such as length of pipes, fittings and other obstructions, and the allowable pressure drop through the heat exchanger.

The following suggestions regarding this subject should be borne in mind:

1. *Keep out foreign materials*—Pieces of gaskets, metal chips, scale and similar materials, originating during installation, may plug tubes, hence:

a. Care should be used in placing gaskets.

b. Valves with soft seats should not be used.

c. Pipe lines should be blown out before connecting to the unit.

2. *Safety devices*—Safe operation with a minimum of attention can be affected by following these rules:

a. Most standard shells are provided with usual tappings for safety devices. To safeguard against failures or possible ruptures during service, the unit must be protected with safety or relief valves of an approved type and make, set at the proper pressure. In the tube circuit, such devices should be placed in the inlet piping, between the nearest valve and the unit.

b. Provide a by-pass in both circuits of the unit to permit periodic inspection or repair, without interruption of the fluid flow.

c. In condensing units, inert gas vents should be provided to preclude gas binding of the heat transfer surface, with a subsequent reduction in thermal capacity.

d. Provide suitable drain piping.

e. Install surge drums when the liquid is being delivered to the unit by a reciprocating pump, as the vibration is apt to result in serious damage to the tubes.

f. Install gage glasses in condensing units to show liquid level.

Operation

In beginning operations:

1. Be sure that all air has been eliminated from the liquid and vapor spaces by opening the vent cocks until all passages are completely filled.

2. Be sure that steam traps are properly draining the vapor space of steam actuated heaters.

3. The first fluid to admit should be that whose temperature most nearly approximates the temperature of the unit. The heat exchanger should never be shocked by the sudden admission of extremely hot or cold fluids; repeated stresses set up by such a procedure cause metal fatigue. Thermal or physical shocks should be avoided when possible.

A sufficient circulation of the cold medium should be maintained at all times to prevent overheating with subsequent depositing of scale, coke or sludge. As a general rule, in shutting down the unit, the hot fluid should be cut off first. Should it be necessary to cut out the cold fluid circulation, the hot medium should first be by-passed.

After shutting down, all fluids should be drained, if possible to prevent freezing, corrosion or sludging. In steam-

Illustrations and text courtesy of Whitlock Manufacturing Company.

actuated heaters, condensate should be completely removed to prevent water hammer.

In all cases, where there is a question regarding the use of the heat exchanger for a purpose other than that for which it was designed, the manufacturer should be contacted.

Maintenance

Since the successful operation and life the unit is influenced by the care given it, a system for periodic inspection should be set up. Temperatures and pressures of the fluid entering and leaving the equipment should be checked as they provide reliable indications as to correct functioning. For instance, an increase in the pressure drop across the unit with an accompanying decrease in the temperature range usually indicates fouling or dirt in the unit, or a decrease in the temperature range by itself denotes vapor or gas binding. Periodic removal of the bundle for visual inspection and cleaning is desirable. The bundle should be checked for excessive corrosion.

Cleaning

The exchanger equipment, while built soundly of quality materials, must be kept properly cleaned to provide anticipated thermal results. The following are suggested methods for cleaning.

1. *For water soluble deposits*—Flush with warm water.

2. *For soft, water insoluble deposits*—Circulate hot wash oil or light distillate through the tubes and shell as a good velocity, followed by thorough washing.

3. *For sludges or cokes*—Should neither Item 1 nor 2 produce satisfactory results, then cleaning compounds have been found to give good results.

4. *For hard scale*—Should the scale not yield to the previously mentioned treatments, then a chemical analysis of the scale might be advisable. Such analysis may indicate that careful washing with a dilute mineral acid and inhibitor, followed by thorough washing, would provide the required results. A mechanical cleaner, preferably a wire brush, can advantageously be employed, but care should be exercised to prevent the cutting or scoring of the tube wall.

Frequent cleaning is important to prevent excessive deposits on the tubes, since these deposits may result in plugging the tubes.

Resultant overheating may be followed by leakage of the expanded joints or result in other damage and certainly in a reduction of thermal capacity. In cleaning, however, the following "Do Nots" are well to remember:

1. Do not introduce steam into an individual tube, as such a practice causes differential expansion strains with possible leakage at the tube joints.

2. Do not introduce air into units handling inflammable fluids.

3. Do not open the unit until it has been completely shut down, drained and all pressure released.

When inspecting, cleaning, or removing the tube bundle or shell, observance of the following is important:

1. To clean or inspect, it is only necessary to remove channel covers (that is, with a two-piece head: with a one-piece head, remove head itself), and in the floating head design, remove the shell cover and floating head covers, also.

2. To locate tube joint leaks:

a. In fixed tube sheet units—remove channel covers and apply fluid pressure on the shell side.

b. In floating tube sheet design—remove the front channel and apply hydrostatic pressure on the shell side and any leaks between tube and front tube sheet will immediately be evident; should a major leak occur in the rear tube sheet, the fluid will shortly be seen running out the bottom row of tubes. If a test ring is purchased with the exchanger, remove the shell cover and floating head; then attach the test ring. The pressure then will show up any leaks in the floating tube sheet. Minor leaks may require the removal of the tube bundle and the application of a pressure test on the tubes.

c. In U-tube units—remove channel, and test from the shell side. (Caution: Be sure that all bolted contact surfaces are securely bolted with all bolts in place and properly tightened.)

3. To remove the tube bundle, the joint should first be broken with a chisel, being careful not to injure the gasket surface, and the bundle should then be pried out, using a chisel or a crowbar. Where the resistance to removal is great, a pair of hydraulic jacks, placed diametrically opposite on the periphery of the tube sheet, may be employed.

To remove a straight tube—floating tube sheet bundle, either of the above methods may be used, or steel cables may be threaded through several tubes, tube diameter permitting, and pulled—the cable should be passed through a wooden block at the tube ends to protect such tube ends from damage.

Corrosion

Since the corrosion of heat exchanger parts is of major interest when considering the maintenance of such equipment, it is appropriate that this subject be treated by itself.

The generally accepted conception of the mechanism of corrosion recognizes the tendency of common metals, being relatively unstable, to revert to a more stable form such as oxides and salts. This theory, known as the electrolytic theory, propounds that the iron (chosen here since we are concerned chiefly with this material) goes into solution as iron ions; but for the iron to go into a solution, an equivalent number of positive ions of some other element must be displaced, in order that the solution may remain electrically neutral. As an example, a piece of iron immersed in a copper solvent solution will go into solution, but at the same time, an equivalent amount of copper will be plated out. In the case of natural water, the element plated out is hydrogen, with hydrogen usually removed, (1) by combination

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with oxygen to form water or (2) as the gas, according to

$$Fe + 2H^{+} \rightleftharpoons Fe^{++} + 2H \begin{cases} + \tfrac{1}{2} O_2 \rightarrow H_2O \\ \rightarrow H_2 \end{cases}$$

The tendancy of hydrogen to come out of solution has been found to increase with the degree of acidity. This latter can be measured as the hydrogen-ion concentration.

Water is slightly dissociated into hydrogen and hydroxyl ions with the product of the individual concentrations a constant 10^{-14}. When these ions are present in equal quantities with the concentrations 10^{-7}, then the solution is neutral. For convenience, such concentrations are expressed as the negative log of the hydrogen-ion concentration or the pH value. A pH of 7, therefore, indicates pure neutral water—a pH of less than 7 indicating acidic solutions and a pH of greater than 7 representing basic or alkaline solutions.

For all general purposes, the following represents the effect of pH on the rate of corrosion of iron or steel.

pH greater than 9.6—Corrosion Slow
pH from 4.3 to 9.6—Corrosion Medium
pH less than 4.3—Corrosion Rapid

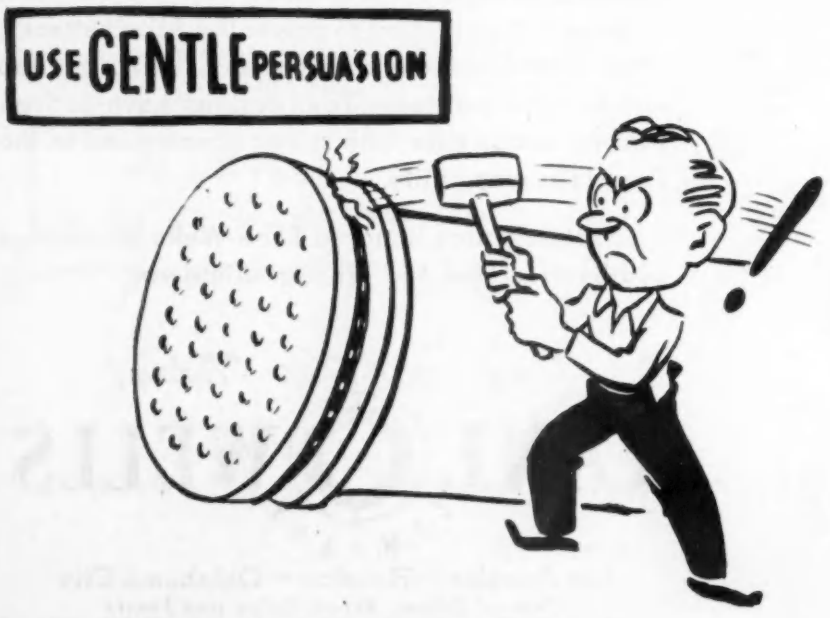
It should be said of the above summation that the limits of the rapid corrosion zone are greatly expanded as the temperature increases—(the above would be for average inlet natural water temperatures). It should also be pointed out that while for the pH zone of 4.3 to 9.6 the corrosion has been indicated as being medium, the corrosion in this area can be particularly dangerous. The principal factor influencing the rate of corrosion in the last group is the hydrogen-ion concentration. For the first two groups, the oxygen concentration is the dominant factor.

With the mechanism of corrosion and the important corrosive influence recognized, a few words on the prevention of corrosion are in order. The first and foremost attack on the problem, is of course, pH control, but should this treatment be impractical, then the alternate methods can be summed up in three classes as follows:

A. Applied coatings, such as paints, varnishes, lacquers, etc.

B. Chemical treatment of the liquids such as the addition of chemicals that facilitate the formation of protective film on the metal surfaces.

C. Use of metals having the power to adapt themselves to the particular environment by forming self-protecting films.



War Progress Brings Cut In Tanker Construction

Favorable developments in the military situation has brought Maritime Commission cancellation of contracts for construction of 30 of the 126 tankers currently scheduled for completion.

Contracts for the 126 tankers were placed in January, and as a result of the commission's order Alabama Dry Dock and Shipbuilding Company, Mobile, will complete 21 instead of 26 vessels; Welding Shipyards, Inc., Norfolk, one instead of two; Sun Shipbuilding and Dry Dock Company, Chester, Pennsylvania, 32 instead of 45; Marinship Corporation, Sausalito, California, 13 instead of 18, and the Kaiser Company, Inc., Swan Island Yard, Portland, Oregon, 29 instead of 35.

Sun has contracts for other types of merchant ship construction and the Kaiser Company yard has ship repair contracts.

Pittsburgh Asks Hearing On Gas Rate Proposal

The Federal Power Commission has scheduled a hearing for June 11, in Washington, on a complaint by the city of Pittsburgh, to determine whether any natural-gas rates, subject to its jurisdiction, of Pittsburgh and West Virginia Gas Company and Kentucky West Virginia Gas Company are unjust, etc.

The Pittsburgh complaint states that all or a substantial part of the gas sold by Kentucky West Virginia Gas Company to Pittsburgh and West Virginia Gas Company is sold by the latter to Equitable Gas Company, which has filed with the Pennsylvania Public Utility Commission a tariff for gas services in Pittsburgh and adjacent territory which would effect increases of $1,400,000 a year, or about 10 percent, in its operating revenues. The three companies were said to be affiliated.

Committee Chairmen Named By Rocky Mountain Group

Committees on taxation, public lands, legal and legislative, and production, recently appointed by the board of directors of the Rocky Mountain Oil and Gas Association will be headed respectively by: J. F. Cullen, division manager, Stanolind Oil and Gas Company; Warren Skelton, independent; H. H. Healy, division manager of Ohio Oil Company; and Carroll Kirk, Kirk Oil Company. H. H. Healy was named association second vice president and made a director. H. C. O. Clark, division manager of The Pure Oil Company also was elected to the board.

The general committee of the Association is made up of chairmen of the committees mentioned above, along with Fred Goodstein, president of Trigood Oil Company, and chairman of the finance committee.

Frawley on PCA Board

Election of David L. Frawley, vice president of the Barnsdall Oil Company of Pittsburgh, as a member of its board of directors was announced last week by Pennsylvania-Central Airlines.

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Protecting Formations With Packers During Salvage Operations

By KEITH H. MINER, Lane-Wells Company

MANY operators have helped solve their wartime casing shortage problem by pulling unneeded inner strings from old wells. This has been accomplished successfully on wells which are still producing. Where casing is salvaged from wells that are to be returned to production every precaution must be taken to prevent damage to the producing formation. Packers are one of the means used to keep mud from clogging the perforations below the point where the upper portion of the casing was removed. The procedure has been used successfully in many shallow California fields and is applicable in other areas.

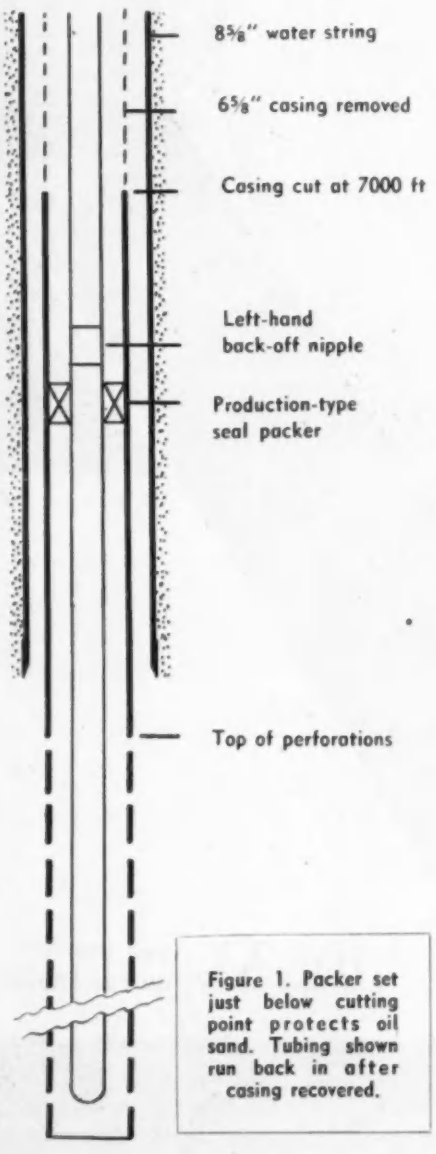

Figure 1. Packer set just below cutting point protects oil sand. Tubing shown run back in after casing recovered.

Many wells in California were completed by the early practice of running full oil strings for production, and these wells have provided a valuable source of second-hand casing. Thousands of tons of good casing have been recovered in California since the beginning of the war. One large company pulled approximately 150,000 feet of this pipe during 1942, and during 1943 pulled more than 200,000 feet. An examination of the company's properties revealed it might recover 1,150,000 feet of casing of various sizes from old wells. A number of other large companies have pulled approximately equal amounts during the past two years.

Check All Records

Since the purpose of salvaging the pipe under such conditions is to obtain casing suitable for running in new wells, the operation involves more than just going into a well, cutting and pulling the pipe and then shipping to some other lease for use. (See "Inner Strings of Casing Pulled from Producing Wells for salvage," THE OIL WEEKLY, February 7, 1944.) Unless a sufficient amount of the string to be recovered is going to be in usable condition, it is better left in the old well. The condition of the well from which it is taken must be given due consideration, and if the removal of the casing is remotely likely to cause loss of production it should be left where it is. Particular attention must be given to the condition of the pipe and of the threads and collars. Therefore, a thorough investigation based on all records available is necessary before undertaking salvage operations.

Many conditions have been encountered and different means have been taken to protect the producing zones while the casing is being pulled. Given herewith is a description of a casing salvage operation where a packer was used to keep the old mud above the cut pipe from moving down the hole and clogging the perforations below when the upper portion of the casing was removed.

Use of Packer

In one well, where approximately 7000 feet of 6⅝-inch casing was recovered, it was necessary to keep the mud between this string and an 8⅝-inch water string from falling down and mudding off the formation when the pipe above the perforations was removed. In this case a production-type packer was used successfully under conditions illustrated in Figure 1. The mud had been left between the strings when the casing was set a number of years before, and it was known to be of such character that it might endanger production when released and worked loose by the pipe milling operations.

To overcome this danger the production type packer shown in Figure 2 was run in on tubing and set in the 6⅝-inch casing below the place at which the casing was to be cut, the location of the cut being sufficiently above the shoe of the water string to allow a desired lap into the 8⅝-inch of the lower portion of the 6⅝-inch which then became perforated liner. A left-hand, back-off nipple was placed in the tubing string on which the packer was run to provide for backing off and pulling the tubing which naturally had to be out of the well while the pipe recovering operations were carried on. In addition, as long a section of tail pipe as possible was hung below the packer. This tail pipe was plugged at the end. The anulus between the tubing and the 6⅝-inch casing was filled with enough water to provide a total weight of 10,000 pounds above the packer and insure that it remained set after the tubing had been withdrawn.

With the packer set and the tubing pulled out, the 6⅝-inch casing was cut as shown in Figure 1 and the pipe above the cut recovered. The fluid was then bailed down to a short distance of the top of the back-off nipple. (In cases of this kind where pumps are available the fluid can be circulated out and, if desired, the water can be replaced with oil.) Tubing was run back in and screwed on to the back-off nipple to release the packer and pull it out of the hole. The well was then put back on production with the same equipment with which it had previously been produced.

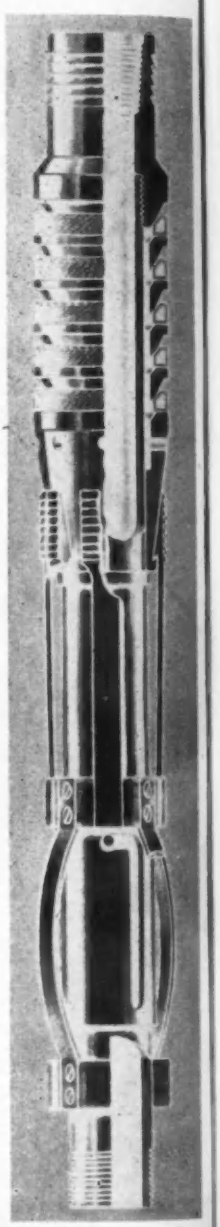

Figure 2. Production-type seal packer used in casing recovery.

Where it is possible the practice has been to cut the casing fairly close to the shoe of the water string but far enough above to leave an adequate lap. Laps have varied from 30 to 100 feet. When casing is cemented or frozen the free point must be determined and the cut made above that point. The top of the stub of a perforated portion left in the hole is usually equipped for entry by tools in the manner found preferable by the operator.

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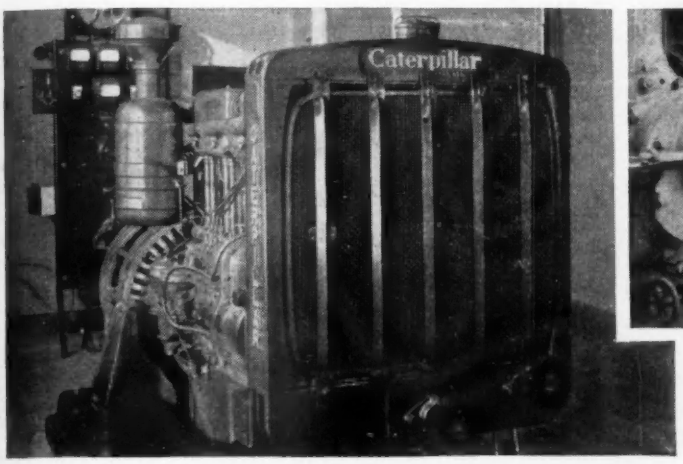
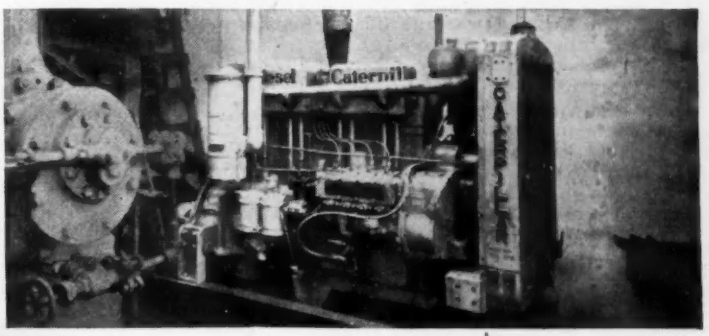


21,400 HOURS

This "Caterpillar" Diesel Electric Set was installed nearly seven years ago as an emergency lighting plant at the Syracuse Airport. Required only 12c worth of repairs during its first 3½ years of service.



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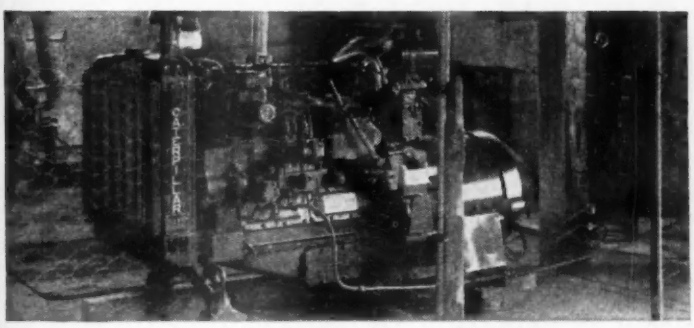
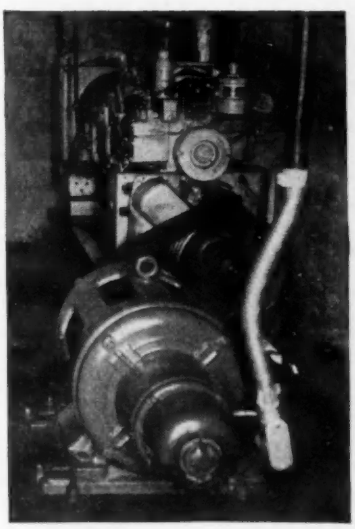
A "granddaddy" among "Caterpillar" Diesels, this D7700 drives an ammonia compressor used in cooling two rooms for the A. J. Krecker Co., Chicago. Record includes 9000 hours of almost continuous running with little or no maintenance expense.



34,400 HOURS

This "Caterpillar" Diesel D4400 powering electric generator was installed in 1940. Operates 24 hours a day furnishing light and power for the town of Haswell, Colo.



32,000 HOURS

This record was made by this "Caterpillar" Diesel D4400 in exactly 5½ years, producing power for incubators, battery brooders, water pumps, lights, etc., for the Bolton Farms Hatchery, Schoeneck, Pa. Runs 24 hours a day, seven days a week, and is seldom shut down more than once in two weeks.

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Three Practical Ways to
Reduce Gas Venting

By WELDON B. HILL, Staff Writer

IT MAY never be possible to stop the flaring of all casinghead gas, but much can be done to reduce the quantity of gas now being vented into the air.

Economic limitations imposed by costs of gathering and processing small volumes preclude complete utilization in the immediate future in many fields.

The most practical approach, both from an economic and operating standpoint, would be to eliminate the popping of gas in large concentrated areas. The first steps, then, should be the elimination of gas flared at casinghead gasoline plants, gas being vented in large producing fields which could be utilized, and wells with excessive gas-oil ratios.

An adequate market, of course, enters the picture in the case of any drastic reduction of flared gas at gasoline plants and the elimination of a major portion of vented gas in flush fields. Post-war plans of gas companies may provide such a market.

Gasoline Plant Flares

Casinghead gasoline plants provide a ready and economical source of vented gas. Railroad commission data indicates approximately 350,000,000 cubic feet of gas are being popped into the air daily at 193 various types of Texas gasoline plants. This gas already has been gathered and processed. All that is required for it to be put into transmission lines is installation of compressor and connecting pipe line facilities.

The venting of gas at Texas gasoline plants, the commission's data show, is largely concentrated in ten fields. In these fields 25 plants account for 224,607,000 cubic feet daily of the gas being vented, or approximately 63 percent. The data also shows that 11 of the 13 plants in District 8, West Texas, account for almost half the gas being vented daily at the gasoline plants. This high ratio for District 8 is due to the lack of transmission lines and because only three of the plants are repressuring the sands. Two of the 11 plants vent 50 percent of this gas.

In District 7, North Texas, where the intake volume is small in comparison with other Texas districts, and where transmission lines are available, the vented gas totals only about 476,000 cubic feet daily, or slightly more than 2 percent of the total volume.

The commission report also shows there are 42 gasoline plants in Texas where all the gas is utilized and 36 gasoline plants each vent less than 1000 cubic feet daily.

One plant in District 2 accounts for approximately 70 percent of the 20,180,000 cubic feet being vented daily in that district. Four plants in District 3 vent 63 percent of the district's total gas popped into the air.

The data on the gasoline plants in Texas indicate all are eliminating the excess venting of gas as nearly as possible under existing circumstances.

It has been estimated that only about 50 fields in Texas account for 60 percent of the total gas flared in the state. These fields constitute a second source where the venting of large volumes of gas could be eliminated. Some of the 50 fields have high ratio wells and the volume of gas being vented could be reduced by reworking the wells and transferring of allowables. However, a large amount of gas not being utilized would still remain.

Because of the volumes involved and the fact the supply is concentrated instead of being widely scattered, it would be practical and economical to gather and process much of this gas. Considerable progress in this direction has been made in recent months and further improvement is due to occur.

The picking up of gas in the larger fields of the state could be advanced rapidly provided the question of the ex-

■ CONTINUED ON PAGE 54

PLANT GAS VENTED IN TEXAS FIELDS

(Railroad Commission Statistics on All Gasoline, Recycling, Repressuring and Pressure Maintenance, and Other Type Plants for Month of February)

Field and District	No. of Plants	Vented Gas (MCF Daily)
District 2:		
Refugio	2	2,906
Francitas	1	551
Heyser	1	13,953
La Rosa	1	2,770
Total District 2	5	20,180
District 3:		
Old Ocean	1	15,366
Blessing	1	363
Joe's Lake	1	1,012
Cleveland	1	2,658
Pledger	1	0
Hardin	1	7,552
North Houston	1	1,172
Hamman	1	0
Bammel	1	0
Conroe	2	9,202
Dickinson	1	8,681
Katy	1	1,777
Lake Creek	1	121
Fairbanks	2	5,027
Tomball	3	0
Total District 3	19	52,932
District 4:		
Agua Dulce	5	3,265
Stratton	1	2,671
Rincon	1	3,509
Benavides	1	442
Southland	1	0
San Salvador	1	0
Violet	1	0
Flour Bluff	1	8,855
La Gloria	1	4,102
Turkey Creek	1	0
E. White Point	1	3,638
Ben Bolt-Alice	1	0
Plymouth	1	1,221
Saxet	1	2,487
Luby	1	3,684
Sejita	1	764
Total District 4	20	34,638
District 5 & 6:		
Cayuga	4	210
Long Lake	4	1,281
Grapeland	4	2,345
Carthage	1	0
Jefferson-Rodessa	3	485
East Texas	16	28,044
Waskom	1	0
Boggy Creek	2	0
Opelika	1	1
Willow Springs	1	49
Hawkins	1	7,086
Joaquin	1	0
Van	1	0
Total District 5 & 6	40	39,501
District 7:		
Overall	1	0
Big Lake	1	398
Eastland	6	4
Desdemona	2	24
Breckenridge	2	1
Cross Cut	2	0
Alden	1	0
North Novice	1	0
Eliasville	2	0
Frankell	1	0
Ibex	1	0
Pioneer	1	49
Cook	1	0
Bluff Creek	1	0
Moran	1	0
Colony	1	0
Strawn	1	0
Caddo	1	0
Hatchett	1	0
Hickman-Flores	1	0
Total District 7	29	476
District 8:		
Foster and Cowden	1	8,993
North Estes	1	1,877
Kermit	2	4,656
North Cowden	1	17,887
North Ward	1	0
Payton	1	0
McElroy	1	19,995
Goldsmith	1	48,017
Penwell-Harper	1	11,760
Seminole	1	15,368
Wasson	1	39,467
Southward	1	6,166
Total District 8	13	174,206
District 9:		
Red River	1	0
KMA	3	14,748
Sewell	1	0
Chalk Hill	1	65
Jack	2	0
Rogers and Rogers	1	93
North Texas	1	0
Knox	1	0
Burkburnett	4	0
Electra	2	0
James	1	527
South Bend	1	1
Rhodes	1	0
Ramming	1	0
Johnson	1	0
Rock Crossing	1	0
Total District 9	23	15,434
District 10:		
West Panhandle	33	9,681
Panhandle	7	944
East Panhandle	3	2,293
Amarillo	1	0
Total District 10	44	12,918
Total All Districts	**193**	**350,285**

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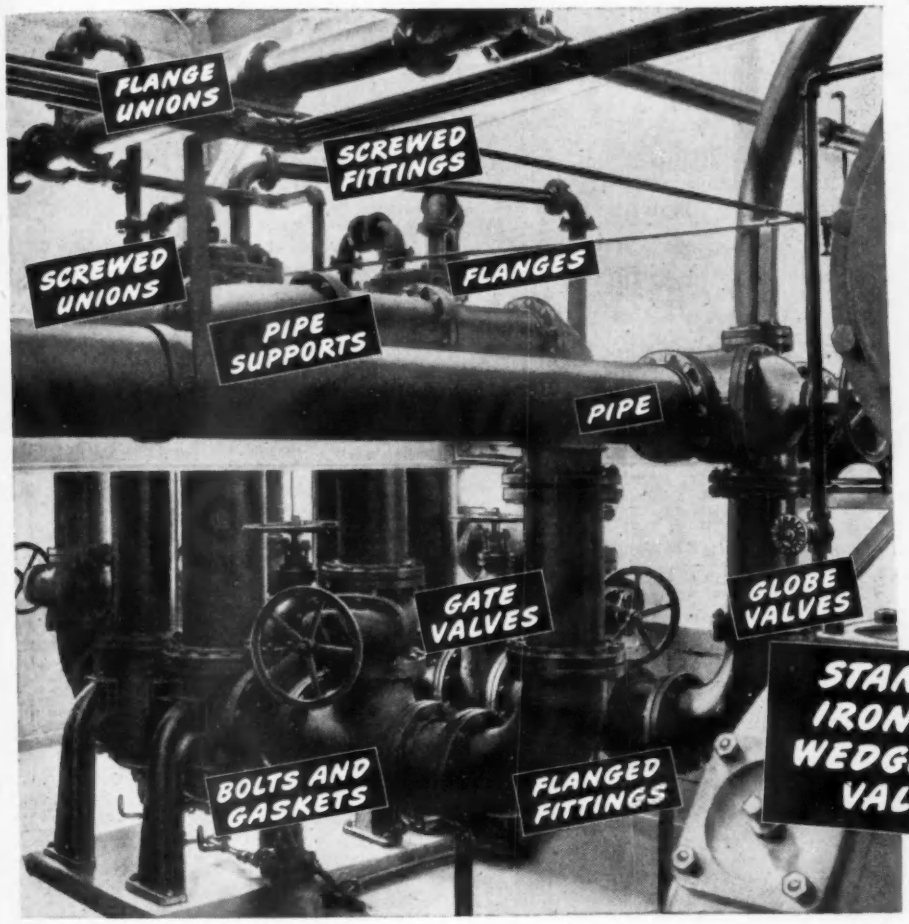
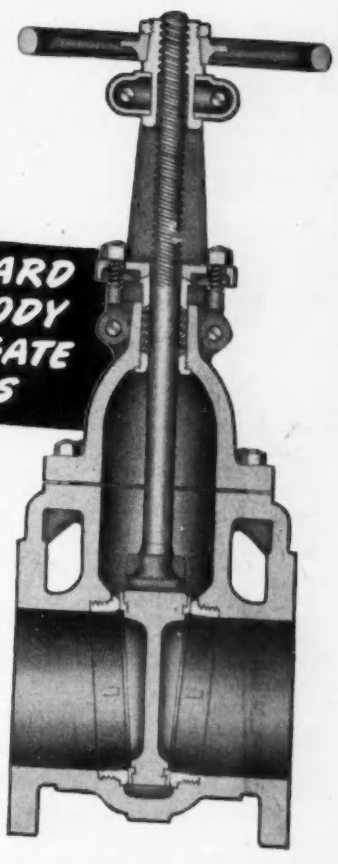


Aftercooler hook-up



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Size of Valve	Screwed or Flanged End Valves		Hub End Valves
	Saturated Steam	Cold Water, Oil or Gas, Non-Shock	Cold Water or Gas Non-Shock
2 to 12 in.	125 pounds	200 pounds	200 pounds
14 and 16 in.	125 pounds	150 pounds	150 pounds
18 to 24 in.	*	150 pounds	150 pounds

*For steam lines larger than 16-in., Crane 150-Pound Cast Steel Gate Valves are recommended. (For sizes under 2-in., use Crane Clamp Gate Valves.)

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Company Reports Emphasize Search for New Oil

Discoveries Fewer Than in Previous Decade; Higher Development Cost Is Great Handicap

By A. R. McTEE, Staff Writer

INDUSTRY trends of great importance are emphasized in annual statements of representative oil companies. Aside from verifying statistics, that 1944 was a year of record production and increased development activity, these reports almost without exception highlight the No. 1, long-term problem of the industry, namely, the finding of new sources.

Almost all the statements show the industry is actively seeking enlarged crude reserves, but with only fair success and that it is handicapped by substantially higher development costs. With few exceptions, statements studied reveal that individual companies found more new oil in 1944 than the record quantities they produced. At the same time, however, they forcefully note that discoveries of new oil are running substantially less than during the previous decade, while expenditures for exploration and development are far above that level.

Reserves Depleted

Hence, to meet demand for oil, the industry is drawing on the backlog of reserves established and developed at low cost during the 1930's, and the oil produced is being replaced with new reserves discovered at much higher cost. Current favorable earnings result, therefore, from the large volumes being produced and successful finding experience, not of the present, but of the 1930's. Substantially higher unit costs of production with lower yield are certain to be experienced when output declines from present abnormal levels and a large proportion of the total comes from high-cost oil now being found.

The answer to this problem, according to company statements to stockholders, is an immediate revision of crude prices with increases sufficient to stimulate exploratory drilling on the part of the independent producer, in keeping with the increased cost of new discoveries. Statements reflect the opinion of company directors that price subsidies have not provided the solution.

Generally, company statements declared this country is not yet running out of oil, and that large areas remain to be tested. That the companies plan to actively prospect such regions is indicated by the increase in amount of lands held under lease. In many instances, the amount of land leased during the year was at an all-time peak. Much of the additional acreage has been acquired in the southeastern states of Mississippi, Alabama and Florida.

Foreign Concessions

At the same time, the reports reflect the awareness of company directors to the advantages of operating in foreign countries. Many of the companies have acquired concessions outside the United States for the first time.

The trend of diminishing returns on capital invested is pointed out as another problem of the industry. Most of the reports clearly reflect how difficult it is becoming to earn as large a return on capital as was realized in preceding years, even by the large integrated companies. High taxes, of course, are a main factor in this condition. In many instances, the amount of taxes per share exceeded the amount of dividends per share.

Cost Factor

Higher drilling costs also are an important factor in lower returns on investment, as well as influencing discovery conditions. This upward trend due to shortage of experienced workmen, higher wages, increased cost and lower quality of material and equipment, and the greater depths to which wells must be drilled will ultimately prove a serious limitation on development unless retarded. When the war is over, a return to normal conditions in manpower and materials will help, but cannot be counted on to make up for the lower price of crude and high taxes. It is the opinion of many that the cost of producing a barrel of oil will increase gradually.

The following comments on discoveries and finding costs are from company statements:

Amerada Petroleum Corporation: Crude oil production was the largest in the company's history, exceeding 1943 output by 32 percent. Sales of natural gas increased approximately 15 percent. Estimated proved reserves at the end of 1944 were slightly greater than a year previous, and were the largest in the history of the corporation.

Intangible drilling costs increased $4,390,000 over 1943 and were larger than in any previous year. Expenditure for drilling 179 wells, including tangible drilling costs and equipment, plus acquisition of new acreage, was approximately $14,875,000 compared with $8,400,000 in 1943.

The Atlantic Refining Company: The fact that dollar earnings were about 37 percent higher than in 1943, and the highest for any year since 1929, reflects more the cumulative effects of substantial investments of earlier years in crude production and transportation facilities than it does the general trend of earnings of any financial advantage accruing from the effects of the war.

Barnsdall Oil Company: Net earnings increased by reason of greater production as compared with 1943. A substantial increase occurred in cost of operations and development. Exploration activities in 1944 were carried on at an accelerated rate. Oil and gas reserves were increased. The company acquired a lease in Venezuela, its first outside the United States.

Continental Oil Company: Producing

Oil Company Drilling, Production and Reserve Statistics, 1944-1943

COMPANY	Wells Completed 1944	Wells Completed 1943	No. Wildcats 1944	1944 Reserves as Compared with 1943	Annual Production in Barrels 1944	Annual Production in Barrels 1943
Amerada Petroleum Corporation	179	....	....	Increased	17,881,741	.....
Atlantic Refining Company	118	61	....	.....	24,631,000	17,678,000
Barnsdall Oil Company	39	31	....	Increased	9,835,324	8,982,455
Cities Service	126	....	....	Increased	26,800,000	27,621,000
Continental Oil Company	423	327	99	Increased	31,566,564	29,544,272
Deep Rock Oil Company	52	....	10	Increased 824,396	2,843,529	2,680,391
Fohs Oil Company	....	....	....	Increased	1,834,354	1,759,662
Gulf Oil Corporation	795	368	....	Increased	119,327,231	85,796,588
Humble Oil & Refining Company	338	252	100	Probably no increase	112,930,000	102,700,000
Lion Oil Refining Company	44	....	....	Increased	4,162,465	3,804,989
Mid-Continent Petroleum Corp	62	....	....	Increased	5,059,225	4,559,020
North Central Texas Oil Company	....	....	24	Increased	301,947	268,639
Ohio Oil Company	248	185	46	Increased	31,941,680	.....
Phillips Petroleum Company	623	....	150	Increased	28,584,412	.....
Plymouth Big-Lake Oil Company	44	....	....	Increased	6,832,504	.....
Pure Oil Company	....	....	....	Increased	35,800,000	.....
Shell Union Oil Corporation	370	....	58	Same as last year	72,395,000	67,708,000
Standard of California	384	....	68	Increased	68,182,332*	.....
Standard of Indiana	324	242	76	Increased	72,379,057	.....
Standard of Ohio	203	....	....	Increased	3,761,325	2,062,350
Sun Oil Company	449	310	152	Increased 60,000,000	24,624,224	18,122,142
Sunray Oil Company	110	....	....	Increased	5,656,729	3,252,796
The Texas Company	1114	677	Double 1943	Increased	98,702,836	84,698,448
Texas Gulf Prod. Company	....	....	....	Increased	1,787,947	1,302,592
Tidewater Associated Oil Company	....	....	....	Increased	31,166,000	27,521,000
Union Oil Company of California	153	101	....	Increased	24,688,000	21,719,000

* Domestic production only.

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and undeveloped acreage held by the company amounted to 1,986,827 acres at then end of 1944, compared with 1,408,053 acres in 1940.

Capital expenditures amounted to $33,772,629, a gain of $13,854,419 over 1943. Of this amount, $30,103,963, or 89.1 percent, was expended on leases and wells. Drilling uncovered substantially more oil than was produced.

Increased production, amounting to 6.84 percent, was due to completion of 270 new producing oil wells; pressure maintenance and remedial work; and increased allowables in some fields. Despite the increase in production, company earnings were down by more than $2,000,000.

Sharp Cost Rise

Cost of wells drilled exceeded the 1943 figure by $7,003,080, which was equivalent to $1.49 per share and higher than in any previous year.

The continuing unprecedented demand and the indifference with which pricing authorities have considered the many appeals made to them for a fair compensation for crude oil produced, may penalize the oil industry into an untenable position.

Gulf Oil Corporation: Last year was marked by intensive drilling to increase production from proven fields and to discover new fields throughout the United States and Central and South America. The possibility of increasing the ultimate recovery from producing fields through pressure maintenance and other improved production methods is receiving careful attention, and it is expected that work now in progress along these lines will add materially to crude oil recoveries from areas now in production.

During 1944, total taxes paid or accrued aggregated $107,693,475, the equivalent of $1.33 for each dollar paid to employes in wages and salaries, or $11.87 per share of capital stock outstanding. Dividends of $2 per share were paid.

Humble Oil & Refining Company: Crude production of 112,930,000 barrels was 30 percent over 1943 and 100 percent over 1942. Humble Pipe Line Company deliveries increased from 122,000,000 barrels in 1942 to 165,700,000 barrels in 1943, and to 214,000,000 barrels in 1944. Crude runs to stills were 17 percent over 1943 and 34 percent over 1942.

Capital expenditures, $48,600,000, were about $12,800,000 above 1943. Federal income and excess profits taxes of $35,250,000 for 1944 were 14 percent higher than in 1943 and five times the amount of 1942. Total taxes were $49,300,000, compared with $42,900,000 in 1943 and $16,300,000 in 1942. Gross revenue was $427,540,000 for 1944, an increase of 30 percent over 1943 and 90 percent over 1942. Net income of $60,500,000 was 32 percent over 1943.

More Exploration

The company drilled more wildcats than in any previous year, yet probably found no more oil than was produced. This experience, like that of the industry, was in sharp contrast to the trend in 1930-40, when large additions to reserves were being made annually. Humble is drawing heavily on reserves discovered in the preceding decade.

Drilling costs have increased greatly in recent years because of the larger proportion of wildcat wells, the greater average depth, and generally higher costs incident to the war. The average time required for drilling wells was 59 days in 1944, compared with 44 in 1943 and 26 in 1942. Expenditures on drilling and equipping wells and leases were $34,000,000 last year, compared with $18,700,000 in 1943. The company completed 338 wells last year against 252 in 1943, and almost a third of the 1944 wells were wildcats. The dry holes in 1944 cost about $105,000 each, whereas dry holes in 1943 averaged $62,000. The cost of producing wells completed increased from an average of $30,000 in 1942 to $47,000 in 1943, and to $66,500 in 1944.

The higher cost of discovering and developing reserves experienced by Humble in 1944 is part of the general trend for the entire industry. The fact that discoveries of new oil are running substantially less than in the previous decade, while expenditures for exploration and development are now far above that level, demonstrates clearly that the industry's replacement cost is greater than the cost of the oil now being produced. The current favorable operating results in the industry are due to high rates of production and the successful finding experience of the 1930's. The petroleum industry will experience substantially higher unit costs of production when output declines from the present abnormal levels and a larger proportion of the total is the high-cost oil found now and in the future.

Dangerous Factors

Two factors endanger the future supply of oil for civilian needs and national security: 1. Higher taxes that the industry will have to pay if, in accordance with a recent court decision, long-established Government regulations are changed to require charging intangible drilling costs to capital rather than to expense. 2. The continued restriction of prices to prewar levels. Prices are at the levels that prevailed in 1937, though the cost of replacing oil is now much greater. Present prices do not provide sufficient incentive for experienced operators to search for and develop new reserves.

Exploration will have to be expanded even above current levels before new discoveries equal production. This is not likely to occur unless oil prices are raised. The increase required to maintain adequate reserves will be greater if added tax burdens reduce the return to producers. The time to increase prices is now, for the relation of supply and demand in the postwar transition period will make it difficult, if not impossible, to secure higher prices.

The Ohio Oil Company: Increased production came partly from additional development of properties and partly from increased rates of withdrawal from previously drilled wells. An exploratory program of 46 wildcat wells was responsible for 6 commercial oil wells, 2 distillate wells and 2 gas wells.

Taxation has become one of the foremost business problems. In the case of many corporations the amount of taxes paid per share exceeds the amount of dividends per share. In 1944, the company paid or incurred liability for state and federal taxes directly, amounting to $7,465,675, an amount equal to $1368 for each person employed, or a tax burden of $1.14 per share.

Phillips Petroleum Company: The development program was the most intensive ever undertaken. Exploratory drilling was double that for 1943, with wildcats totaling 150. These wells resulted in 25 oil discoveries and 7 new gas areas. Thus, 21 percent of the exploratory wells discovered oil or gas, against an average of 15 percent for the industry. Crude oil reserves were several times 1944 production.

Acreage in the United States at the close of the year totaled 4,767,683 acres, an increase of 1,255,583 acres during the year. Acreage in foreign countries approximated 1,557,225 acres. Preliminary activities have been launched in Venezuela, Colombia, Canada and Mexico.

Plymouth-Big Lake Oil Company: Notwithstanding an increase of approximately 213,000 barrels in oil production, company earnings were less than in the previous year. This was due to increased operating costs while the price of crude oil remained the same.

Subsidies Not Enough

Government sponsors of the subsidy claimed that it would achieve the same effect as the price increase asked for, through stimulating exploration and increasing production not only from new discoveries but through the reconditioning old wells. The failure of the subsidy program is demonstrated by the fact that in the Pennsylvania Grade district where thousands of small stripper wells are located, production has suffered a sharp and continuing decline since the subsidy became effective. It is obvious that the subsidy program is no solution to the price problem, not even in the stripper well districts.

The Pure Oil Company: Production was the largest in history. Geological work was carried on with a larger force and greater activity than at any time in history. As a result, holdings of undeveloped acreage increased.

Shell Union Oil Corporation: Although the possibilities of uncovering new fields are still extensive, nevertheless, as the areas of possible production are combed over, it becomes increasingly difficult to discover new fields. At the end of the year, the company's proved reserves were about the same as at the beginning of the year. The reserve position in the territory east of the Rockies gained, but the continued high production in California necessitated by the heavy war demands prevented an over-all improvement.

The fact that total reserves of the nation have increased in spite of the very substantial withdrawals mentioned earlier, does not mean that discoveries have been correspondingly large. It is the practice in estimating reserves to take a conservative figure for reserves when a new area is found and then each succeeding year as further information is obtained through drilling of new wells, the estimates are revised accordingly. Thus the major part of the offset to last year's withdrawals consists of revisions of the reserve estimates of areas of production discovered in prior years and it is the fact that reserves attributable to new discoveries have been declining considerably in recent years which has given much concern.

Standard Oil Company of Indiana: Standard's producing companies broke all records in exploratory drilling by completing 76 wildcat wells of their own and participating in 249 others. These efforts resulted in 62 successes which tapped new reserves.

Standard Oil Company (New Jersey): To meet wartime needs during 1944 the company and its affiliates raised crude production 33 percent over the previous year. The output reached an average of 923,000 barrels per day, of which 430,000 per day were from domestic sources.

Earnings amounted to $5.69 per share, compared with $4.51 per share for the

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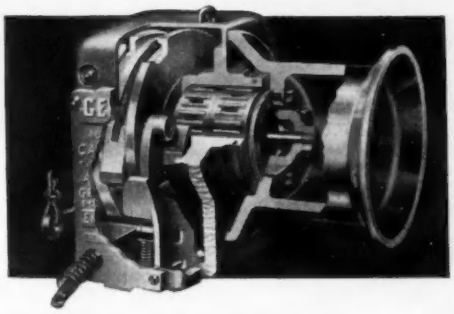

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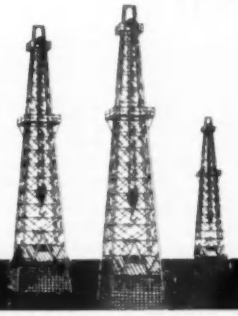

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previous year. The company's payroll, including employe benefits, increased by more than 40 million dollars over 1943.

Approximately $9,000,000 was spent on research and involved 3,000,000 man hours. This included work which will substantially increase 100-octane production, research on jet propulsion fuels, and the solution of processing difficulties that had delayed large-scale production of Butyl rubber.

Standard Oil Company of Ohio: The company in 1944 greatly enlarged its leasing, exploration and drilling activities with gratifying results in production and long-term reserves, and the development of a considerable number of new prospects.

20 Percent Score

About 20 percent of the test wells resulted in locating oil, gas or distillate. The majority, however, represented discovery of relatively small fields of limited significance or of minor extensions to old fields.

Sun Oil Company: Activities reached record levels in virtually every department. Crude production increased 36 percent over 1943. Despite record production, the company added 60,000,000 barrels to proved reserves, or three times the amount it withdrew from the ground. This feat, says the report, should allay for years the unfounded fears that crop up from time to time that "we are running out of oil." The company drilled 152 exploratory wells.

The company holds 6,531,750 undeveloped acres in the United States, against 5,041,861 acres a year ago.

Sunray Oil Corporation: Production increased from 3,252,796 barrels in 1943 to 5,656,729 barrels in 1944. Exploratory drilling resulted in opening five new oil pools.

The Texas Company: Gross production increased greatly. The company also made several purchases of producing properties through which daily production was increased about 6000 barrels daily.

Exploration Doubled

Exploratory drilling more than doubled 1943. Nevertheless, discoveries were relatively unimportant as compared with those of the 1930's. A small increase was added to reserves.

It should be recognized that the oil industry still continues to draw on the backlog of oil reserves discovered and developed at low cost and that the reserves so produced are being only partially replaced. The industry is disposing of its inventory in the ground at prices which do not stimulate exploratory drilling on the part of the small independent producer, and are not in keeping with the increased cost of new discoveries.

In review of these conditions, the management repeats its statement made in the 1943 Annual Report, and reaffirms the following conclusions:

1. Unless there is developed an entirely new or improved technique for locating deposits of oil, discoveries will be less frequent and new production will be more costly than in the past.

2. It is believed that a more equitable price is necessary to stimulate exploratory drilling particularly on the part of the small producer. The number and depth of these exploratory wells must, in our opinion, be increased far beyond that considered normal in the past.

3. Unless new important reserves are discovered in the United States, this country must become a substantially larger importer of petroleum in order to provide for its military, industrial, and civilian requirements.

Tide Water Associated Oil Company: Production increased 13.2 percent during the year. Increased efforts in the search for prospective oil lands resulted in acquisition of 1,076,500 acres.

Successful drilling justifies an upward revision of crude reserves by about 9 million barrels.

The search for additional reserves of crude oil is being carried on more energetically than ever, the management being convinced that opportunities for discovery of oil have by no means been exhausted. Of particular interest are regions in the southeastern states and Wyoming, where the company is acquiring large tracts believed to have oil-bearing possibilities.

While it seems desirable to pursue energetically the search for reserves in the United States, the company is also mindful of the opportunities offered by other countries of the Americas, especially Venezuela and Colombia. Preliminary studies undertaken during the year were sufficiently encouraging to justify an expedition of the company's most experienced geologists who departed for South America early in January, 1945.

Encouraging Point

The company pointed out that one of the most encouraging points in the recent report of the American Petroleum Institute Committee on Petroleum Reserves is that the estimates do not include:

1. Oil under the unproved portions of partly developed fields.
2. Oil in untested prospects.
3. Oil that may be present in unknown prospects in regions believed to be generally favorable.
4. Casinghead gasoline to be extracted at natural gasoline plants in moderately low-pressure fields.
5. Oil that may become available by secondary-recovery methods from fields where such methods have not been applied.
6. Oil that may become available through chemical processing of natural gas.
7. Oil that can be processed from oil shale, coal, or other substitutes.

While the report herein referred to does not give assurance that there is an unlimited supply of crude oil, it is more encouraging than other frequently voiced opinions. It is proper to add, however, that the cost of discoveries is mounting steadily, due to increases in costs of labor and materials and the diminishing chances of finding new pools yielding substantial production. If the industry is to carry on successfully in the future, it must, therefore, be assured of fair and reasonable prices for crude oil and refined products."

Union Oil Company of California: Despite a crude oil production of 31,776,000 barrels, the largest in the company's history, gross reserves increased during 1944 by 44,500,000 barrels.

Operations in California did not result in new discoveries of commercial importance. Several properties were acquired in Mississippi. Florida and Costal Louisiana. They are to be drilled during 1945.

Geophysical work is in progress on about 55 million acres in the Chaco district, Republic of Paraguay, where rights have been acquired to explore and develop.

Prices continued during 1944 at subnormal levels compared with 1926. In the list of 50 commodity price indexes published by the United States Department of Labor only two, (rayon and crude rubber) sell at relative prices lower than petroleum and its products. The oil reserves of the country are being depleted and the products, sold at sub-parity prices, are not replaceable at their former costs. The average price of all commodities in July, 1944, was 4.1 points above normal although petroleum and products remain 36 points below normal.

Gas Venting

■ CONTINUED FROM PAGE 48

tent of the Federal Power Commission's authority were not an issue. Many operators hesitate to gather and prepare this gas for injection into transmission lines because they fear their wells would then come under the authority of FPC. Since the gas is produced by oil wells this would mean FPC control over oil as well as gas. A definite ruling by FPC on this phase of operation would be of great help to both consumers and producers.

Since FPC supposedly is anxious to see flaring of gas reduced as a conservation measure, it could do much to assist by ruling that oil wells tied into transmission gas systems did not come within the scope of FPC authority. For example, one Gulf Coast field currently is flaring more than 8,000,000 cubic feet of gas into the air daily, although a large transmission line traverses the field. The gas company is willing to accept the gas, but well owners hesitate because of the FPC threat.

As a means of getting around this question, it has been suggested that individual or separately owned firms be given a contract to gather and prepare the gas for pipe line delivery. Some thought also has been given to the possibility of organizing cooperative concerns for this purpose, like the East Texas Salt Water Disposal Company. Such practices might prevent extension of FPC authority to the oil producing wells.

Reducing High Ratios

Much good also can be done by the reduction of high gas-oil ratios. A small percentage of the wells in a field usually produce most of the gas. A remedial completion program for the purpose of reducing the ratio would accomplish much. This would be real conservation, as the gas would be kept in the ground.

The possibilities of such a remedial program can be realized from the large number of wells in the state having ratios far in excess of neighboring wells. For example, one West Texas field with an average ratio of 1000 to 1 has some wells with ratios up to 25,000 to 1. Ratios on offset wells vary from 1000 to 1 up to 10,000 to 1. Recompletion of high ratio wells would save much. Similar conditions exist in many other Texas fields.

After such wells had been repaired to shut off as much gas as feasible, additional savings would be made by adoption of a program of transferring oil allowables from high ratio wells to low ratio wells. A plan similar to the transfer of allowables from large water producing wells in the East Texas field to those of lower volumes would work in at least many instances.

SIMPLICITY IS THE FIRST REQUISITE OF SAFETY

Patents are evidence of contributions to improvement of the industry

Some operators have been led to believe that the holding of a patent by a manufacturer is a club. The facts are that the manufacturer who contributes much will hold many patents; the manufacturer who contributes nothing will hold no patents. The manufacturer who holds patents will not have to add royalties to his other manufacturing costs; the manufacturer who does not hold patents will usually have a royalty expense, or he must refrain from using in his products any of the improvements of the past seventeen years.

If a man or manufacturer conscientiously and diligently endeavors to improve his products, and his efforts are successful, he cannot avoid holding patents, for, unless he files his applications, someone who was not the original contributor will file and he would be forced at an additional cost to pay royalties on his own contributions, or operate without them.

It, therefore, adds up to one basic principle, namely, the manufacturer who has the most trade-accepted patents has contributed the most. To resent patents is to resent efforts toward the improvement of the industry in which one works.

The whole is greater than any of its parts. The standards of a manufacturer or operator either include many patented features, or they are minus the improvements of the past seventeen years.

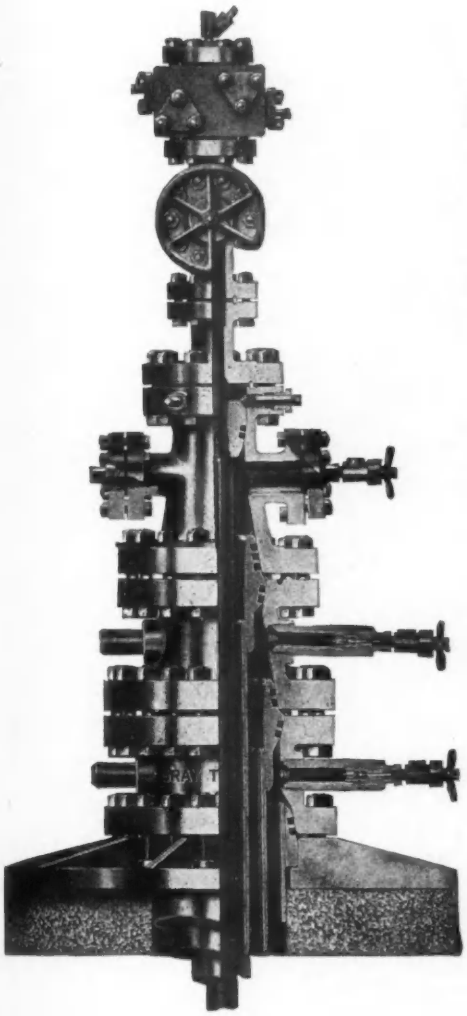

FIGURE 1A

Complete Well Head Assembly equipped with Composite Manifold, Valve Removal, Installation and Removal.

THE WHOLE IS GREATER THAN ANY OF ITS PARTS

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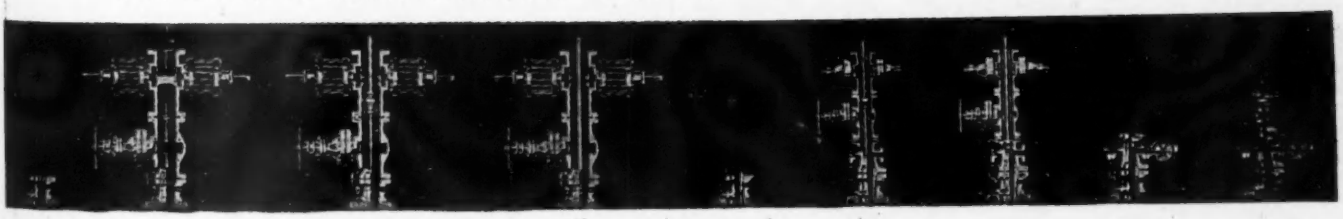
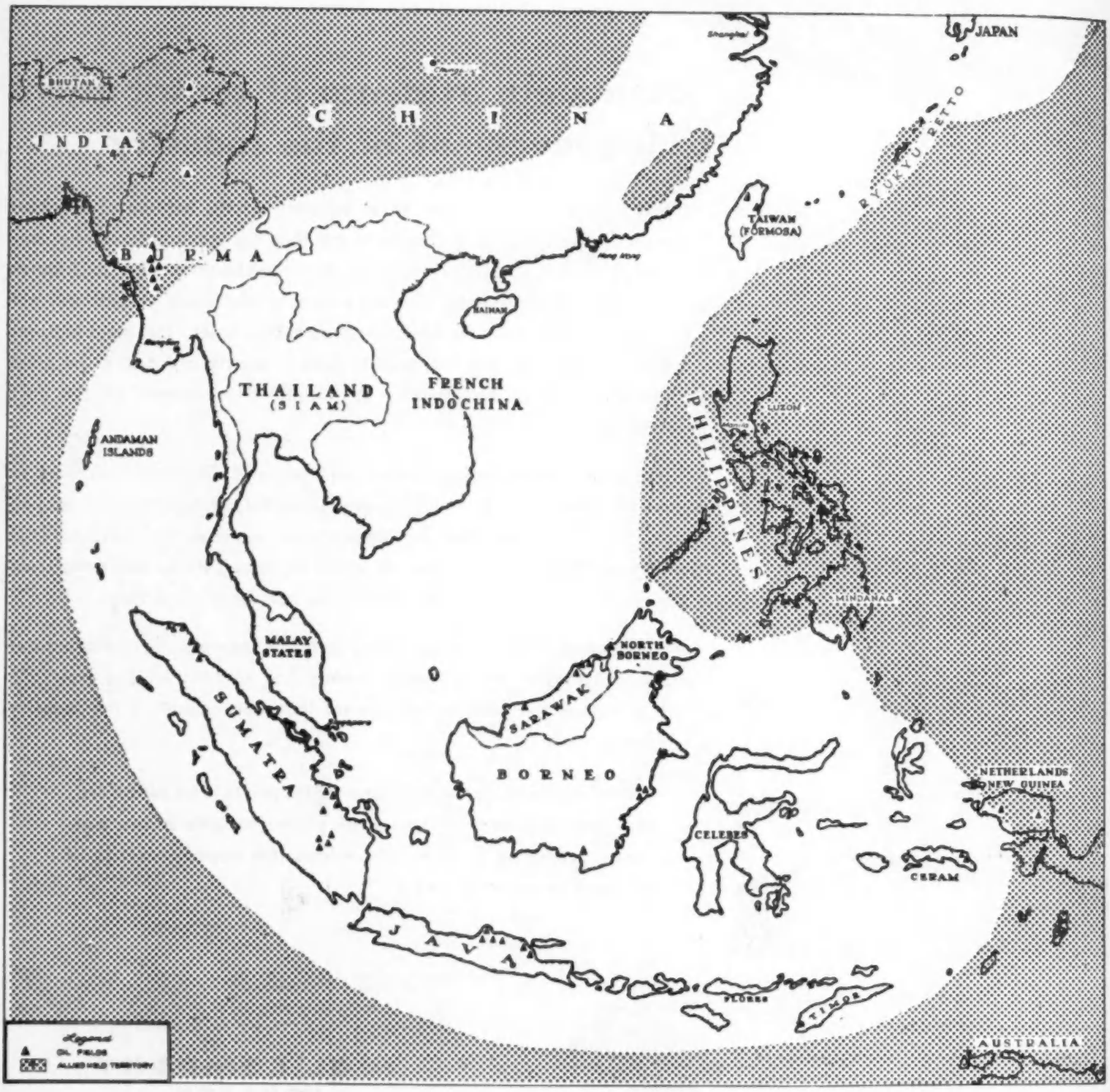


Casing Head Attached | Drilling | Running Casing | Casing Landed | Drilling Control Equipment Removed | Drilling-in and Running Tubing | Tubing Landed | Control Equipment Removed | Manifold Attached

Recent Conquests Choking Off Jap Oil Supply



ALLIED landings on Borneo, announced last week by Tokyo, promise early choking off of the Japs oil supply. The East Indies is the richest and last remaining major oil center left to the enemy. Conquest of the area would leave the Japs with only about 5 percent of the oil they had a year ago, and force them to depend solely on their synthetic industry—much of it badly battered by Superfortresses—and their supposedly large stocks.

The Burma fields were freed of Japs in late April. The majority of the 3800 wells in the Central Burma fields were found capable of being put back into production, although pumping equipment and power plants had been destroyed. Recapture of the Rangoon refinery, largest and only Burma plant left to the Japs, is expected soon. Before the war Burma produced 21,000 barrels and refining capacity was about 30,000 barrels daily.

When the Japs moved into nearby East Indies there were between 4000 and 5000 wells in the various islands. Refining capacity was slightly more than 177,000 barrels daily and 1941 production was 178,500 barrels per day. Every effort was made to destroy the wells, pipe lines and refineries. Therefore, it is not known how much oil the Japs have had available to them. It is estimated 50 to 100 rigs will have to run 10 years after the war to restore production.

Even before all the East Indies are captured, the Japs oil supply becomes precarious. Invasion of the Philippines, Okinawa and Borneo having subjected shipping routes to Allied bombing.

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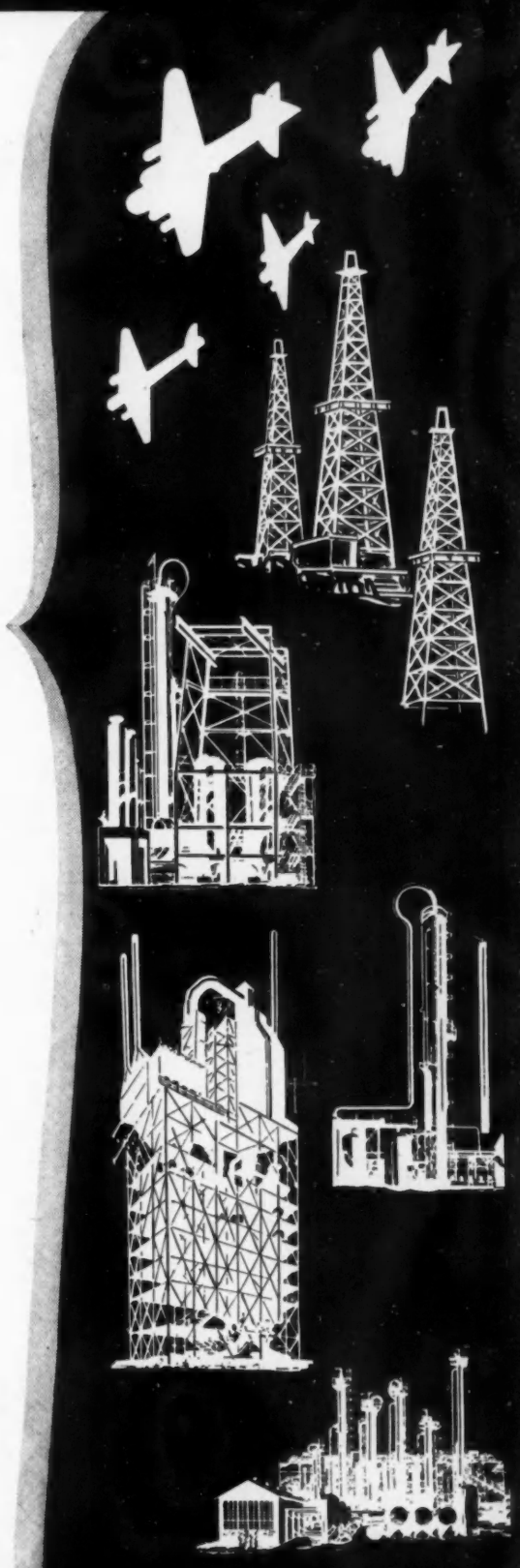

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Tax Review

A Regular Feature of THE OIL WEEKLY
By WILLIAM O. TAYLOR*

This column is designed to review legislation, judicial decisions, administrative rulings and policies, and topics which are of current interest to the oil industry, from a tax viewpoint. It will be published as frequently as new developments seem to require.

Treatment of Bonus for Purposes Other Than Depletion Allowance

ON FEBRUARY 21, 1945, the Tenth Circuit Court decided the case of *Sunray Oil Company v. Commissioner*, ——F(2nd) ——, affirming a decision of the Tax Court reported at 3 T. C. 251. One issue in the case involved the question of whether gross income from an oil property should be reduced by amortization of the bonus paid for the lease for any purpose other than calculation of percentage depletion. For a good many years, that section of the statute which provides for percentage depletion has required that gross income, as a basis for applying the 27½ percent factor, should be reduced by any "rents or royalties paid in respect of the property." The Treasury's regulations, on the theory that a bonus represents advance royalty paid to the lessor, require that the bonus be spread over the total estimated production from the lease and that a pro-rata part be deducted from gross income each year in computing the depletion allowance. The taxpayer, not questioning that treatment, argued that gross income should be so computed for all purposes, i. e., that it should not have to report the total value of the working interest oil as income.

Says "Double Deduction"

The court held otherwise saying that the entire value of the working interest oil satisfies the general definition of gross income in Sec. 22 of the code since it is solely the property of the lessee and subject to his unfettered disposition without accounting to the lessor. It was pointed out too that the taxpayer's theory of the case would, in effect, result in a double deduction, the court saying in this respect that the percentage depletion allowance (or the depletion allowance based on lease cost, if applicable) is intended to return to the taxpayer his investment in the lease. The court's decision is probably correct, but a simpler and more satisfactory reason could have been given.

It should be remembered that, in computing depletion, gross income must be reduced as required by the statutory provision pointed out above only if the amount paid for the lease was subject to depletion in the hands of the person to whom paid. This would ordinarly be the case if the lease was acquired directly from the landowner or mineral fee owner or by an assignment in which the assignor retained an over-ride. It would not be the case if the lease were obtained by assignment for a cash consideration alone. Also, it should be noted that in computing net income from the property, for purposes of the 50 percent limitation, a pro-rata part of bonus need not be taken into account.

* The author is an attorney associated with the firm of Butler and Binion, Houston.

Depletion Need Not Be Restored Where Non-Productive Lease Is Is Partially Surrendered

A lessor is entitled to a depletion deduction against a bonus which he receives for making a lease, but if the lease terminates without production the amount of depletion theretofore deducted must be reported as income in the year in which the lease terminates. The case of *Clara Driscoll v. Commissioner*, decided by the Fifth Circuit on February 22, 1945, involved a situation in which part of a lease was surrendered prior to production. The government contended that part of the prior year's depletion, calculated on an acreage basis, should be reported as income in the year of partial surrender. With one judge dissenting, the court held that no depletion should be restored to income until the entire lease is terminated. Since the depletion allowance in the first instance was based on anticipated production, the court saw no reason for requiring it to be restored as long as there was still some possibility of production.

The importance of the decision to the oil industry is what it may seem to portend in the matter of deduction by a lessee where he surrenders part of a lease. There has been no published ruling, but the governments' policy has apparently been to allow a pro-rata charge-off where the lease was non-productive in its entirety but to allow no charge-off if there was production anywhere on the lease. Consistency with the *Driscoll* case might seem to require that no charge-off be allowed in any case until the entire lease is surrendered, and a government ruling to that effect would not be surprising. However, the reasoning of the *Driscoll* case is such that it does not necessarily shed any light, one way or another, on the lessee's side of the picture. The lessor is concerned with Sections 22(a) and 114(b) of the code, and he must report prior year's depletion if subsequent facts show that he was granted a deduction to which he was not entitled. The lessee, on the other hand, is concerned with Section 23 of the code, and his claim for a deduction is fundamentally based on worthlessness of the acreage surrendered. The two situations are not nearly enough analogous to justify a conclusion that the *Driscoll* case has any bearing on the question of partial charge-offs.

Old Principle Disapproved

Before conceding that no deduction is allowable on a partial surrender, taxpayers should consider the result reached in *Esperson v. Commissioner*, 127 F(2) 370, also decided by the Fifth Circuit Court. Taxpayer in that case had purchased lands in fee, subject to certain mineral reservations in prior conveyances. Claiming a vacancy as to part of the land involved, a third person filed an application to purchase it from the state. His application was granted but, due to mineral classifications, all minerals were reserved to the state. Taxpayer purchased the third party's claim and the land was patented to her. She claimed a loss due to the failure of the title to the minerals under her earlier purchase and the Fifth Circuit sustained her claim, remanding the case to the Tax Court for determining the amount of the loss based on (1) how many acres covered by her original purchase were included in the vacancy, (2) the extent of the mineral interest which she would have acquired except for the vacancy, and (3) how much she paid for the minerals thus lost. The facts thus to be determined on remand clearly show that the Fifth Circuit intended to allow the taxpayer a pro-rata charge-off based on partial divestment of a mineral estate, which is also the case where a lease is partially surrendered. The fact that the vacancy involved in the *Esperson* case was not established judicially, the taxpayer choosing to buy in the outstanding claim without contesting it, makes the case even more closely analogous to a voluntary surrender by a lessee of part of the land covered by his lease.

The Fifth Circuit, which disregarded a quarter of a century of precedent in the recent *F. H. E.* case, voices its disapproval in the *Driscoll* case of another principle which has been equally well established for many years. Referring to the allowance of a depletion deduction against a bonus received by a lessor, a question squarely decided by the Supreme Court of the United States in *Burnet v. Harmel*, 287 U. S. 103, in 1932, The Fifth Circuit says it is a "confusing concept" for which "no statutory authority has been pointed out," and that "perplexities will continue to arise" as long as it is adhered to. This is reminiscent of Judge Sibley's blast some two years ago at the regulation which the Fifth Circuit has recently held invalid.

☆ ☆ ☆

Otis Plant Wins "E"

The Army and Navy "E" was bestowed upon the Otis, Kansas, helium plant of the Bureau of Mines by the Navy Department April 25, the third of five government plants to be so recognized. The award was previously won by the original plant at Amarillo and the new plant at Exell, Texas.

Since the bureau began its work on helium production in the last war, the cost of the gas has been reduced from $2500 a cubic foot to about one cent.

Shell Awards Pins

Ralph B. Roark, vice president in charge of the Mid-Continent division, Shell Oil Company, Tulsa, awarded company service pins to J. M. Flaherty, assistant treasurer, and Nelson Wallace, supervisor of automotive garage, 25 years; J. A. LaBarge, R. O. Schaefer, W. B. Andrews and Sherwood Buckstaff, 20 years; G. A. Klages, Frances Edmiston, L. E. Rinker and S. M. Sisley, 15 years; C. L. Stinnett, industrial relations manager, A. W. Lampadius, H. L. Koch and O. P. Cargile, 10 years.

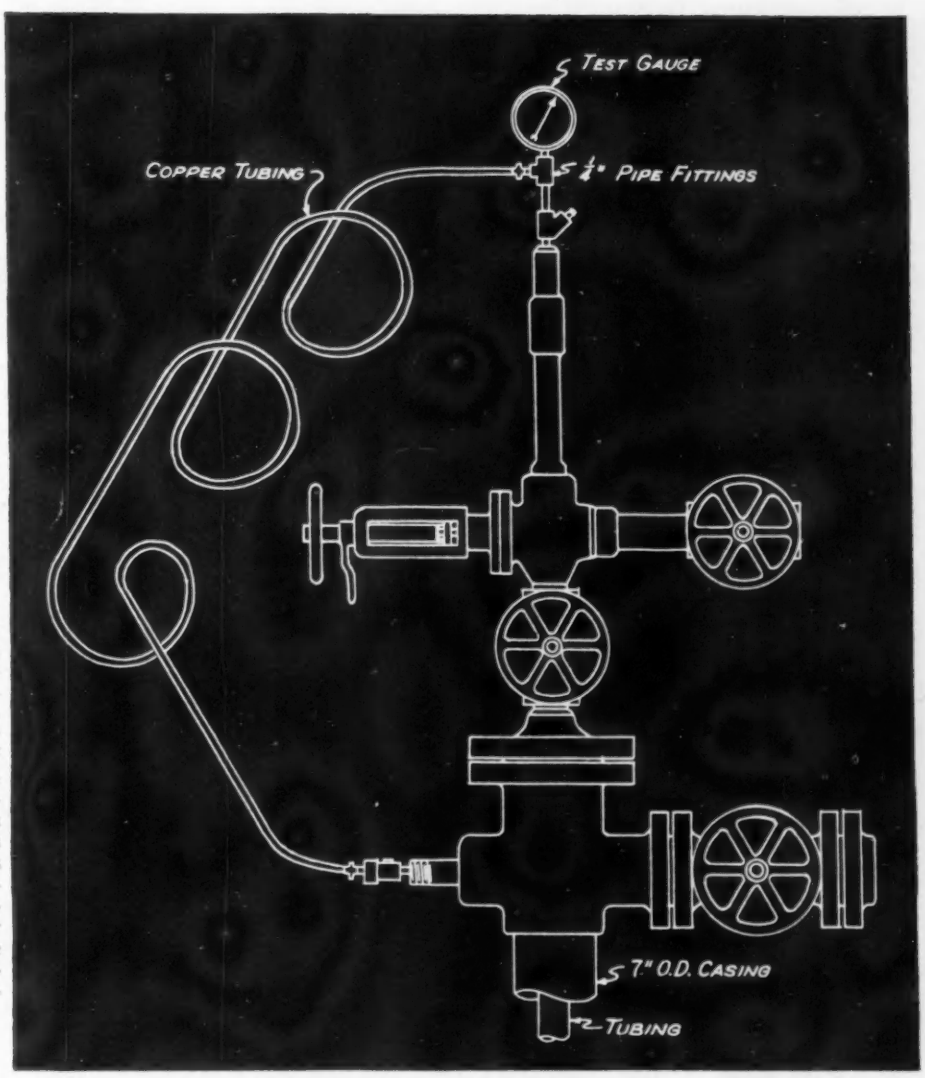
Tanham Quits WLB

James Tanham, vice president of The Texas Company, has resigned effective April 30 as chairman of the industry members of the National War Labor Board in order to devote more time to private business affairs.

Flexible Equalizer Kicks Off Dead Wells

Simple device saves time and money by utilizing power stored within casing

FREQUENTLY a flowing well which has gone dead may be placed back on production simply by utilizing power stored within the casing in the form of compressed gas, if means be at hand to use this power. One company, experiencing considerable difficulty with a number of wells in a block, devised a simple kick-off which effected substantial savings in time and money. As shown in the sketch, the tubing and casing in a well are coupled together at the surface by ⅜-inch copper tubing which forms an equalizer connection between the pressure gauge cocks on the respective strings.



Tubing Fluid Depressed

If the casinghead pressure be great enough, when it is turned into the top of the tubing string, the action is to depress the level of the tubing fluid so that when the hydrostatic head thus formed has been removed the well will again flow naturally when the gas pressure built up has been vented and the tubing is again open to flow.

The switcher can hook up the device in a very few minutes, loops in the tubing absorbing differences in distances between gauge cocks on different christmas tree hook-ups. After the loop is installed and casinghead pressure admitted to the tubing, it is necessary only to check as convenient the rate of equalization as indicated by a pressure gauge, giving the well no further attention until it is ready for starting. As a rule, in the field which the device was tried, the dead well kicks off as soon as its tubing head pressure has been increased to within 50 pounds of the casinghead pressure, the latter usually standing at about 750 pounds in the area. Service records show that equalizing alone is successful in restoring production in 90 percent of all efforts.

Working Pressure

The working pressure of the copper conduit is conservatively placed at 750 pounds per square inch—the average casinghead pressure for the area—while the cold bursting pressure is 5600 pounds. The cost of the tubing and its few fittings amounts altogether to $3.50, while the length of tubing provided is sufficient to permit installation even on a well head where the casinghead connection is outside the derrick floor.

The minimum saving effected by use of the device would be that obtained over the use of outside gas only, which locally comes to about $12 per well when the production is restored by the "rocking" method. Where the equalizer eliminates a swabbing job, the saving starts at around $20 in cash outlay alone, not to consider the benefit of more speedy restoration of production on a well which, while dead, is a liability only.

Tendency of the copper tubing to straighten out when pressure is applied by opening the casing gauge-cock line may, if the pressure be put on suddenly, result in stripping of the threads or pulling a kink in the tubing which, if straightened, introduces a weak spot in the line.

Rather than take time and expend effort in straightening out the tie-in line before putting it into service, one switcher carries a roll of ¾-inch friction tape and puts a secure wrap of the material around each loop in the tubing at the point of crossing. The tape ties also prevent the tubing from vibrating under the flow of gas from the casing annulus into the tubing, and thus prevent chafing and possible damage against the floor, christmas tree or derrick.

Since frequent bending tends to work-harden the copper tubing, it should be annealed occasionally to relieve the metal and permit it to be more easily bent. This should be carried out carefully, or the job done in a shop equipped for such work.

DRILLING HINTS

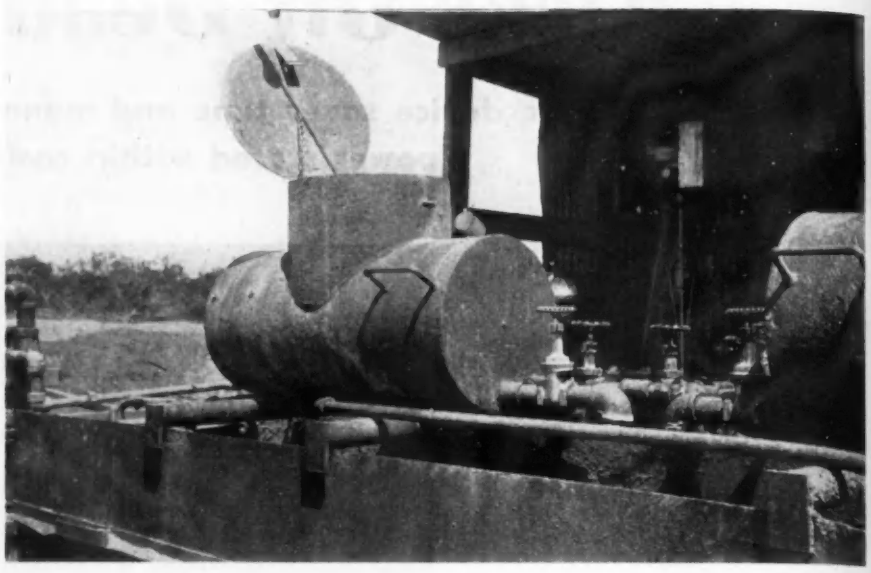
Batch Mixing Drum Provides Metered Mud Chemical Feed to Flume Flow

CHEMICAL ADDITIONS

Batching of the chemicals added to the mud stream requires some type of vat in which the materials may be dissolved and thinned to the proper proportions to insure the desired concentration when a trickle of the mixture is fed into the flow in the mud flume.

One contractor makes special mixing drums, utilizing short sections of 20-inch pipe for the body of the unit, welding flat ends and a pair of heavy pipe supporting units to this barrel, and cutting in a vertical section of the same diameter pipe to make a spout and provide full opening for adding chemicals and observing or stirring the mix. A sheet steel cap, of a diameter sufficient to cover the opening, is hinged at one side with a short chain to retain the lid in open position.

Short vertical sections of strap steel, welded to the ends of the supporting pipes, retain the drum in position on the side members of the steel mud flume, but permit slight shifting in location due to expansion without stressing drum or flume wall.



Handles, formed from round rod, are welded to the drum to aid in shifting it. Valves on the outlet lines control flow of the mixture into the mud stream, the outlet ell being fitted with a plug having a small hole drilled through it when a drip feed is desired.

$5.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

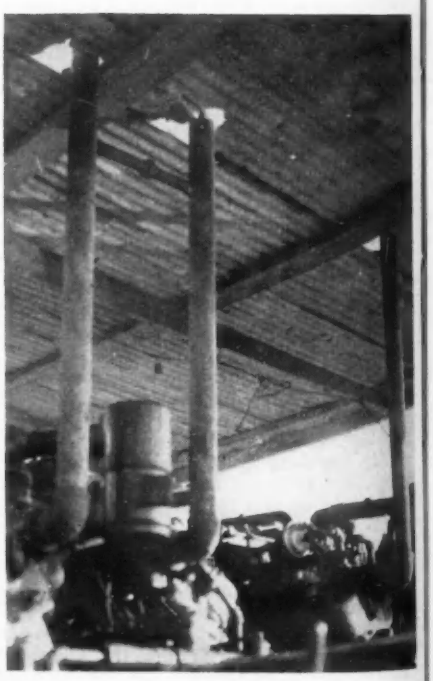
Union-Equipped Tie Prevents Vibration Damage

ENGINE EQUIPMENT

On a battery of V-type engines powering a mechanical rig, the dual exhaust pipes were led upward through the corrugated roof, being connected to the engine manifold through short nipples and ells. Vibration of the engines tended to rotate the risers around the engine thread as a center, with the result that the fittings were made up as tightly as possible to snub the motion. This latter practice resulted in frozen fittings and, in some cases, even in stripped threads or cracked castings in the manifold.

To avoid these troubles, a pair of short, facing 1-inch pipe nipples were welded to the two exhaust lines just below the roof, and these nipples joined with a gasket-type union from which the gasket was omitted. The tie-in thus formed prevented sway of the pipes, and was found to afford ample stiffness to the lines when the manifold connections were made up with only tension enough to prevent wobble in the threads. Should further anchorage of the lines be considered necessary, a bracket can be extended from the nearest rafter to the brace, as this unit does not become hot enough to char wood, as do the exhausts themselves.

If the slight amount of rain which finds its way through the openings in the roof is objectionable, small hoods, welded or clamped to the exhaust pipes above the opening, tend to deflect direct rainfall, while a turned up edging to the apertures will divert flow along the sheet itself. The shield is, of course, set far enough above the corrugated roofing to prevent chafing, with consequent wear and noise.



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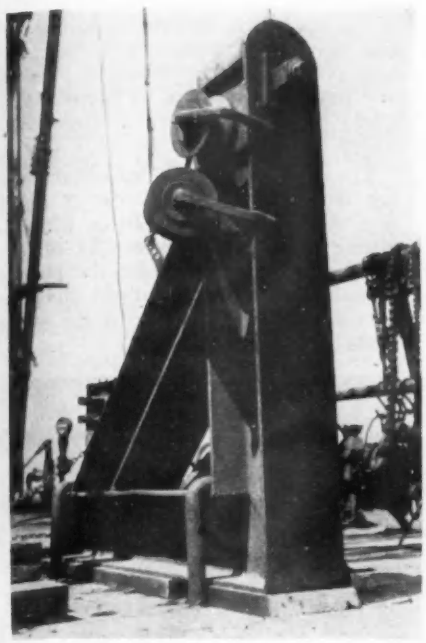


CATLINE ACCESSORY

When the derrick line is used for handling heavy equipment, adequate anchorage must be provided for sheaves which change direction of the pull. One contractor spends more than the usual amount of time and attention on this line guide, welding up a triangular frame of heavy I-beams and setting the sheaves on brackets so that they will align the rope in the desired direction.

The broad base of the unit is fastened, through the planking, to one of the through members of the steel sub-structure, heavy U-bolts being placed over the frame with the nuts and straps positioned below the floor to reduce as much as possible the amount of obstruction placed in the working space.

The unit also serves as back-up post for the tongs, with the line attached to the eye of a bolt which passes through the top of the post above the higher of the two sheave locations.

The top of the vertical I-beam is fitted with a half-round filler piece, to prevent damaging chafing of the rope.

Portable Change Room Improves Working Conditions

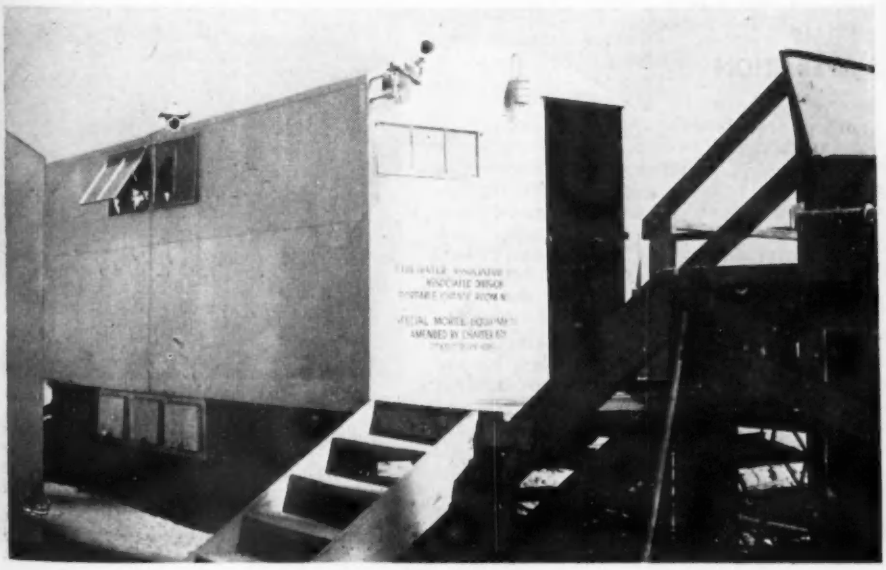
CREW QUARTERS

A portable change room has solved the requirements of one drilling contractor for a convenient place in which crews change from street to work clothes. The house is large enough to contain a bench down the aisle, with locker and hanger space at either side, with a small gas- or oil-fired stove at the farther end to provide heat and aid in drying wet clothing.

Storage drawers are suspended below the floor, between the axles, and augment the space within the structure for footwear and items not frequently required.

The house is wired for connection to the rig lighting circuit, and has a transformer and horn for connection to the built-in telephone to amplify the signal so it can be heard all over the rig.

Being mounted on wheels, equipped with solid tires to cut down on deterioration during periods when the unit is stationed at a rig, the change room can be moved readily, and is spotted simply by backing into place against a platform extending from the rig stairway so as to form a porch at change-room floor level.



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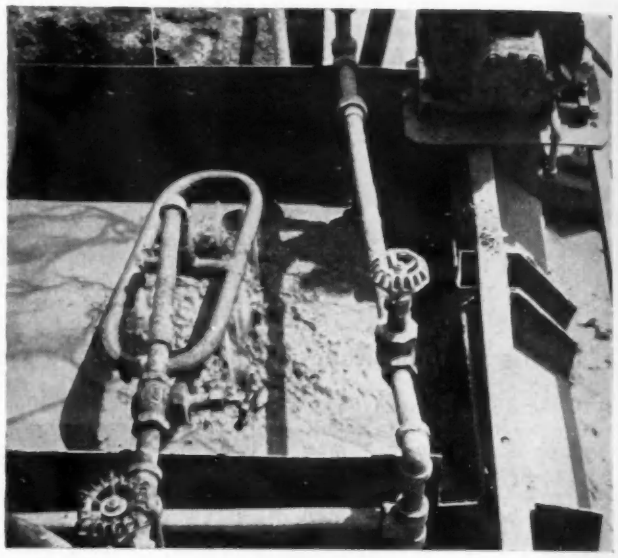
Stack Blower Casting Serves as Water Spray Head

MUD FLOW CONDITIONING

Perforated pipe is widely used to break up the water stream used to thin the flow of mud just before it reaches the shale shaker, the pipe being open to two objections from the viewpoint of the driller or mud man. The pipe either tends to rust up and clog the small apertures drilled in the pipe, and thus to cut down on the proper distribution of the water, or the erosive action of the water soon cuts through the relatively thin pipe wall and the holes become so large that the fine spray effect is lost and the flow enters the mud as a few large streams which do not have time to diffuse and thin the entire flow before it reaches the screen.

One drilling contractor puts to a new use a steam boiler blower head or jet assembly. The cast iron oval, equipped with the standard tips on each of the jet leads, is suspended from the water supply pipe a short distance above the mud stream. Pressure of the water gives a fine spray at each of the jets, and the resulting water addition is not only distributed over the top of the mud flow, but also is forced deep into it by the pressure of the jets. This fine, powerful spray tends to break up any lumps which may be carried in the mud, and assures even distribution of water throughout the flow.

The head, being of cast iron, does not tend to corrode or rust as rapidly as a steel pipe spray section, while the nozzle tips themselves can be replaced whenever they erode past the point of desirable stream break-up or they may be taken off for cleaning if the system tends to clog.



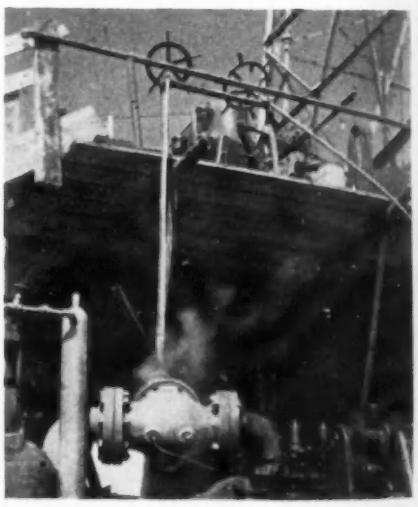
Floor-Mounted Wheels on Extensions Speed Pump Control

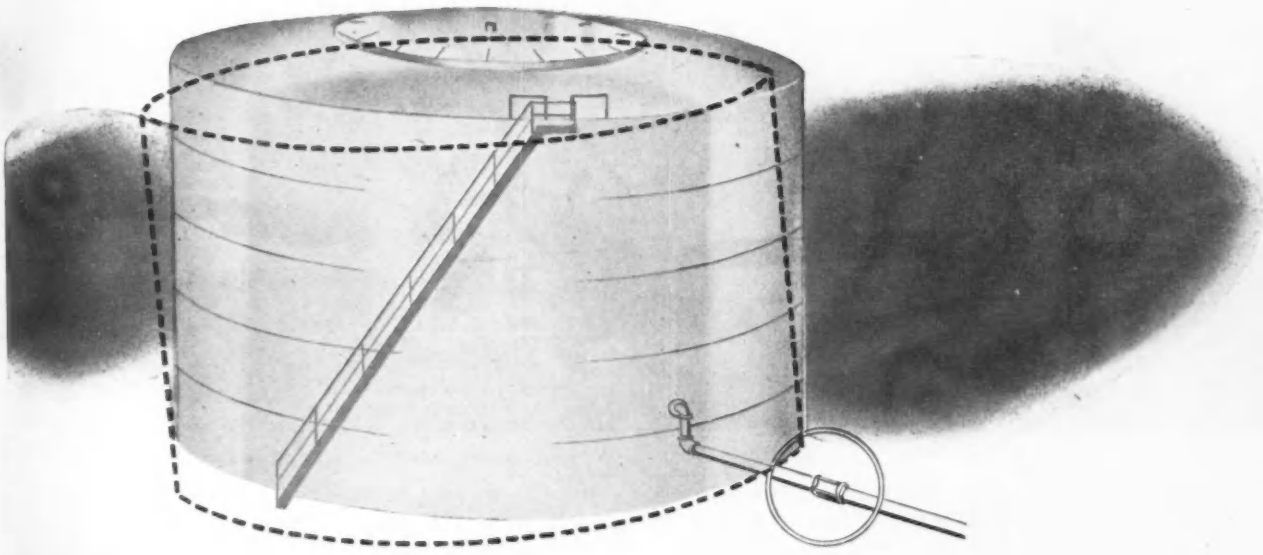
PUMP OPERATION

On a close-coupled rig, where the mud pumps are set adjacent to the derrick, many steps can be saved and more accurate mud handling provided if control of steam to the pumps be transferred to the working floor. One contractor obtains this result by removing the wheel from the throttle valve, fastening in its place one side of a universal joint salvaged from a 1½-ton truck. To the other half of the joint is welded an extension rod—or pipe—which reaches to a convenient site on the derrick floor. Here a rack supports the upper end, and provides bearing for the handwheel which enables the valve to close as tightly as though directly on the throttle.

Simply dropping a retaining pin through properly placed holes in the pipe supporting frame provides against lateral travel of the extension rod, as there is no side strain, even when applying force to break free a jammed valve.

Extended spokes on the wheel simplify applying leverage to crack a tight valve, while a 1-foot nipple welded at right angles to the extension rod near the universal joint provides leverage for valve manipulation at pump level. Since the valve handwheels are inclined, any desired setting of the throttle may be insured, simply by hanging a small weight to whatever segment of the wheel happens to be lowest.





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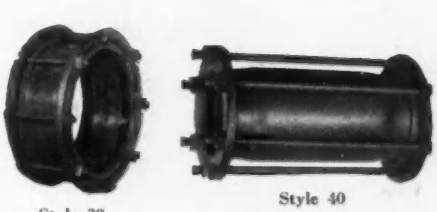
Dresser Manufacturing Division, Dresser Industries, Inc., Bradford, Pa. Houston Office and Warehouse, 1121 Rothwell Street, Sec. 16, Houston, Texas; in Canada: Dresser Manufacturing Company, Ltd., 60 Front Street, West, Toronto, Ontario.

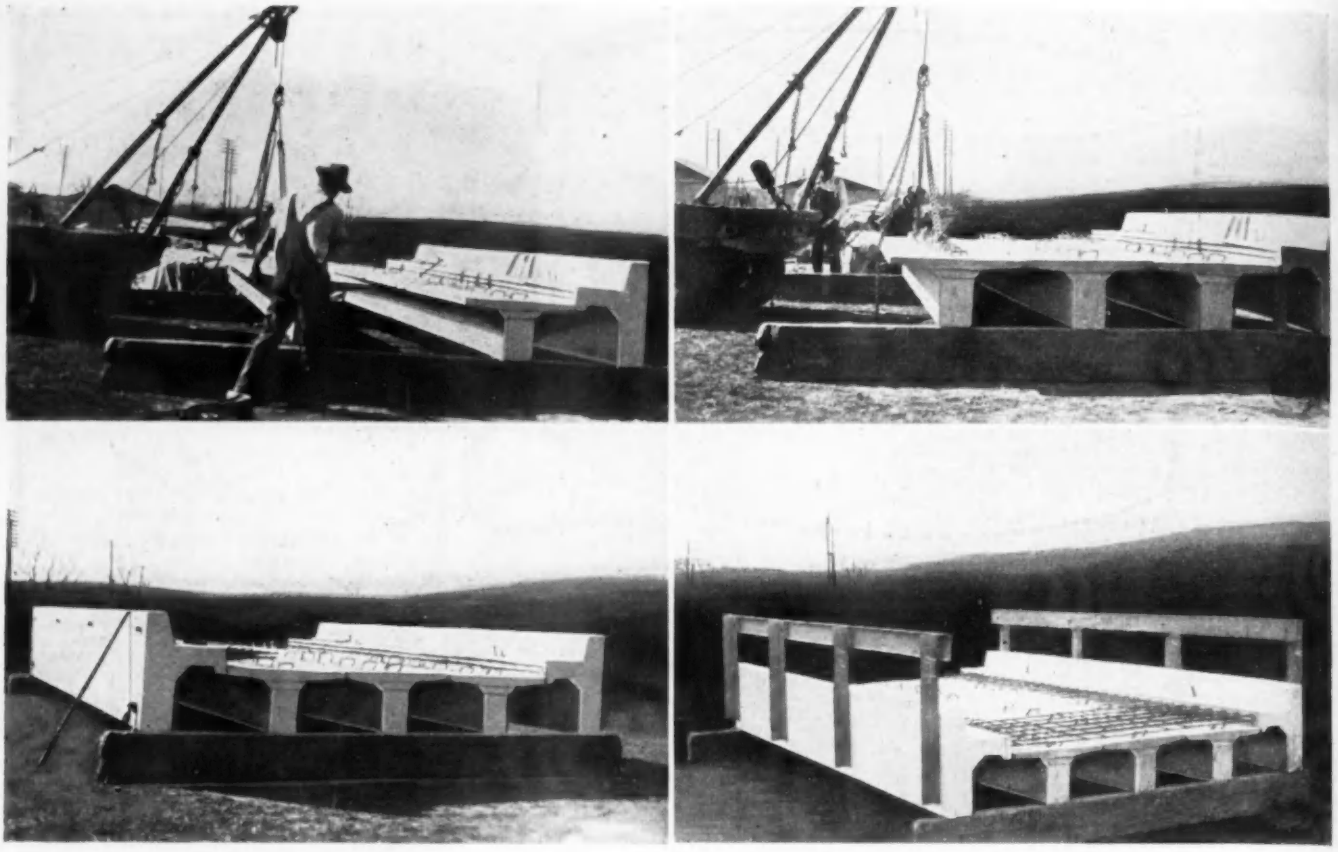
Dresser Couplings for Tank Connections



Style 38 Style 40

Style 38 is the standard Dresser Coupling, used where pipe-ends come fairly close together. For closures, or where excessive pipe pull is anticipated, use Style 40 Long Sleeves.

DRESSER COUPLINGS for Plain-End Pipe



Upper left, one curb stringer and one interior stringer in place and a second interior stringer being placed.
Upper right, one curb stringer and three interior stringers in place.
Lower left, all stringers in place ready for the slab reinforcing.
Lower right, the reinforcing partly in place and the siderail erected.

Precast Concrete Bridges

Timely new method reduces use of critical war materials and also does not require labor to build and erect forms

A METHOD for constructing concrete bridges and culverts has been developed that does away with the need for any form lumber and other falsework at the site. Since it reduces or eliminates the use of critical war materials and also does not require the labor necessary to build and erect forms, this new method is of special importance at this time.

The method was developed by Moore & Turner, construction engineers of San Antonio, Texas, to aid in constructing and maintaining road systems on oil properties. The method was prompted when an oil company requested a bid from this firm on a timber trestle. When it was found that no guaranteed delivery of the timber could be had, the idea for a precast concrete structure was worked out.

As shown in the accompanying illustrations, by this plan of building, the essential parts of the bridge are precast and assembled so that the actual work at the site consists largely of making the site ready and putting the parts of the bridge together.

Forms are taken to some point nearest the bridge site where concrete materials are available, and the reinforced curb and interior stringers are cast. Abutments and piers, the sub-structure, are built at the bridge site and can be of creosoted timbers or pre-cast concrete piling.

When the sub-structure is ready, the stringers are hauled to the site and erected. Each span of the bridge requires two curb stringers and enough interior stringers to make the bridge the desired width. The width is increased or decreased in increments of 2 feet, 10½ inches, this being the width of the interior stringer.

Erection of the stringers at the bridge site is handled in various ways, depending upon location conditions. Dragline or gin poles are used in some instances, but normally the stringers are erected by means of a special traveler which has been developed specifically for the purpose. The traveler starts at one end of the trestle and moves out over each span as the span is erected.

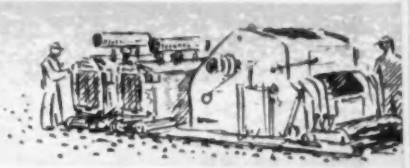
The reinforced concrete slab, keying the entire structure is poured after the stringers are in place.

The type of railing and rail posts are optional.

By using high early strength cement, the bridge can be opened to traffic within a very days after it is completed.

The basic design of the bridge is for an H-15 loading, American Association of State Highway Officials type. An H-20 design is also available. These designs mean respectively loading for 30,000 and 40,000-pound trucks.

DRAW WORKS



FEATURES

Six speeds and reverse to both drums.

Friction clutched high drive outside of the transmission permits fast lift of block without shifting gears.

Rotary table operates from five-speed and reverse transmission and through a friction clutch. Automatic brake stops rotation of table.

Engines are equipped with synchronized control whereby they are held to equal r.p.m.—quickly adjustable for maximum compounding power.

Either or both engines may be used to drive the draw works, rotary table or pump.

When rotating, no chains are running, except to the table, although catheads or drum may be engaged through friction clutches without stopping rotary table or slush pump.

Rathole drive sprocket is built into the draw works.

Main drive chains run in spray of oil in oil-tight cases. All other chains are drip oiled through sight-feed oilers which are easily turned off when draw works is not in use.

All engines are standard with fireproofing and water-circulated spark arrester.

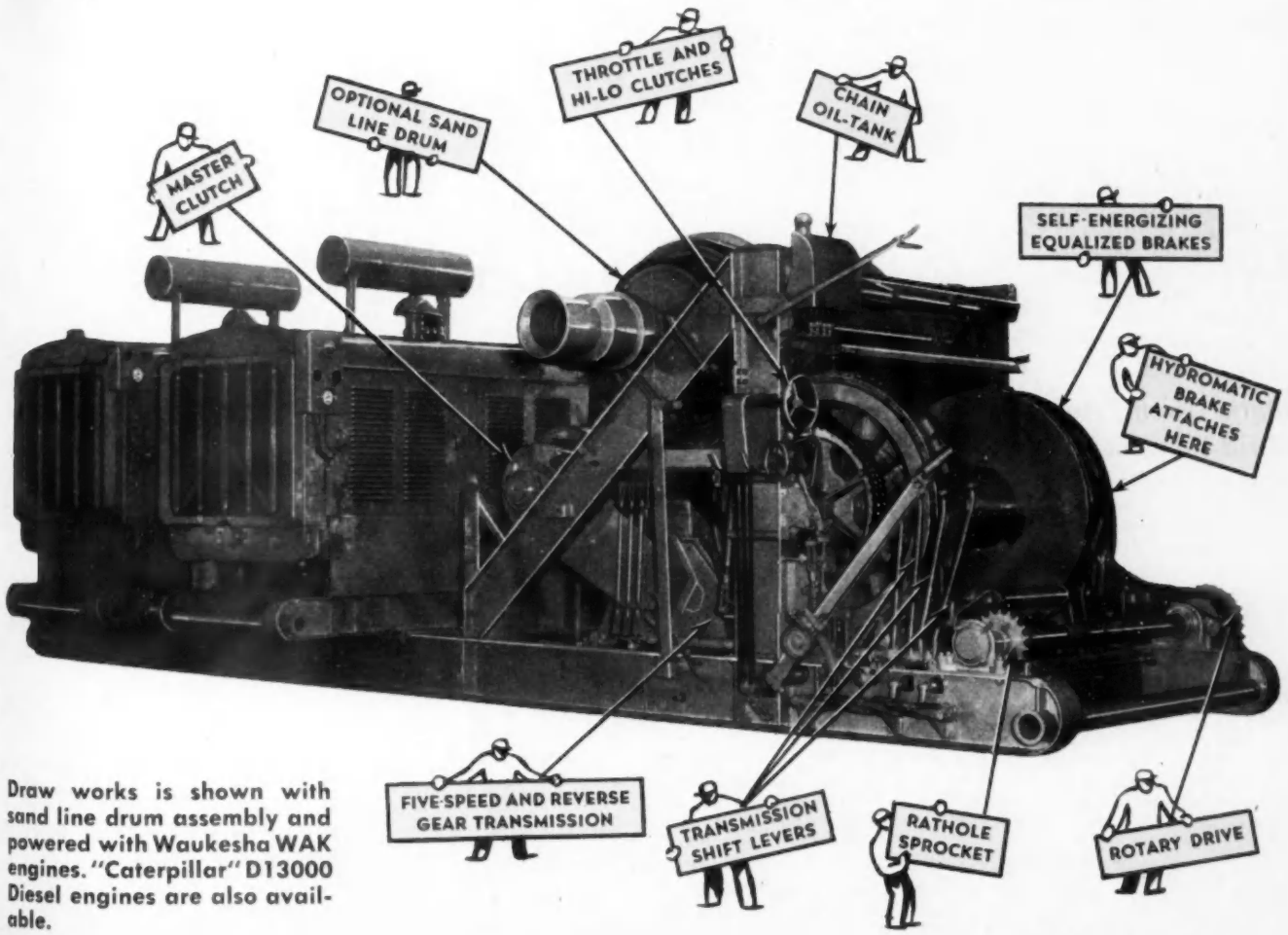
Sand line drum is optional equipment.

All wearing parts, including brake flanges, are heat-treated. All sprockets are specially hardened.

Friction clutch assemblies are mounted on ball bearings to eliminate drag when disengaged.

Shields are equipped with "Cardwell" Shieldtite fasteners. All shields can be removed by two men in thirty minutes.

All assemblies can be easily removed for repairs. Brake bands removable for relining without dismantling drums.



Draw works is shown with sand line drum assembly and powered with Waukesha WAK engines. "Caterpillar" D13000 Diesel engines are also available.

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Shell Has Another Dificil Producer; More Companies Plan Explorations

Shell interests have completed a third successful well in the Dificil field, with a reported initial rate of 500 barrels after two acid treatments.

This field is about 150 kilometers southeast of Barranquilla, Colombia. The new well, Dificil 4, is making gas with 44-gravity oil. Dificil 5 to the west was spudded March 8 and was drilling below 4000 feet in the first week of April. Rigging up will be started at No. 6 location, 2500 meters south of No. 4, as soon as the equipment can be moved from the latter site.

Indications are that Shell will be able to develop a sizeable commercial field at Dificil by drilling west and south of the initial wells. It is reported that negotiations are in progress for a pipe line from the field to either Santa Marta or Barranquilla, probably within the next year, depending upon drilling results during the next six months.

Richmond to Spud

Meantime, Richmond Petroleum Company is getting ready to spud a wildcat in its Caraballo concession, 75 kilometers north of Dificil. The company was moving in a 12,000-foot rig used by the Army in New Zealand explorations in 1943-1944. It is being hauled in by railroad and truck from Santa Marta.

Tropical Oil Company is undertaking a wildcatting program that will be started soon in the La Granada and Costarica tracts, adjoining the Dificil property on the west and southwest. Equipment was being moved in to the first location.

Cal-Tex interests plan a wildcat in the Pinto tract, held by Richmond. This property, comprising 55,000 acres, extends from the Andian pipe line right-of-way along the Magdalena River and northeast to within 35 kilometers of the Dificil field, and adjoins the La Granada tract of Tropical.

Southeast of the Dificil tract Shell has completed a fourth dry wildcat in the Doce concession. Two of the tests were put down below 10,000 feet in 1944. It is reliably reported that the company will relinquish this property as having unfavorable possibilities. The adjoining Retiro tract was surrendered by Richmond last fall, after similar dry-hole experience.

San Angel Operations

Shell continues to look for a paying proposition in the San Angel property, adjoining the Dificil tract on the north side. Here, at the beginning of April, the company was drilling below 6200 feet in San Angel 3 and was coring the section from 5200 feet on down. Early in 1944 the No. 1 well at San Angel was completed as a good gas well, after which No. 2 was drilled and abandoned as a dry well.

Further drilling at Dificil together with the four or more tests that probably will be completed this year on nearby properties of Richmond and Tropical interests, will supply much more conclusive information regarding the future possibilities of western Magdalena than has so far been revealed as a result of unsuccessful drilling by Shell and Richmond along the north and south extensions of the Dificil trend alone. Other structures will now get the drilling appraisals that they are generally believed to merit; and at least two companies in addition to those named will very likely be included in the wildcat play in northwestern Magdalena before the end of this year.

Atlantic Given Extension To Drill Venezuela Wells

Under the provisions of an agreement between Pantepec Oil Company of Venezuela and Venezuelan Atlantic Refining Company, the latter has been granted an extension to June 1, 1945 to complete two test wells on the Pirital block in Maturin and Cedeno, Monagas, and to exercise its option of acquiring a 50 percent operating interest in the four tracts within the block, at a price of $2,000,000.

Avipa 1, the first of the two contract wells, was completed as a 200-barrel producer at the end of March. On the same date, Morichito 1, in the westernmost tract, was drilling at 3444 feet. A third Pirital well was to be spudded before the end of April.

At least five more exploratory wells are to be drilled by Atlantic on wholly owned Pantepec tracts in eastern Venezuela, which aggregate 326,146 acres. The program must be completed by March 31, 1947, after which 30 days will be allowed for Atlantic to take up an option on the remainder of the concession properties.

1944 Venezuela Production Put at 257,464,326 Barrels

President Isaias Medina of Venezuela, in his annual message to Congress April 23, gave an official figure of 257,464,326 barrels as the 1944 combined output of the nation's oil wells, an average of 705,382 barrels per day. This represents an increase of nearly 78,000,000 barrels over the 1943 yield of 179,580,000 barrels, a gain of 43 percent.

He also reported that new concessions granted or in process of contract negotiation, since July 1, 1944, amount to 5,147,000 hectares, in addition to 1,437,000 hectares of concession properties on which production had previously been established and contracts renegotiated on the basis of the new petroleum laws.

Initial exploitation taxes on Venezuelan concessions range from 60 cents to 677 dollars per hectare, plus royalties of up to 33⅓ percent. Approximately half the concession contracts now in force in that country involve royalty agreements in excess of the legal minimum of 16⅔ percent.

President Medina stated that the national revenue for 1944 amounted to approximately $162,000,000, of which approximately $148,000,000 was derived from operations of the petroleum industry.

Contagallo Extension Test Is Reported Successful

Cantagallo 6, east flank extension test on the west bank of the middle Magdalena River opposite Puerto Wilches, Colombia, was reported late in April to be in process of completion as a flowing well.

Compania de Petroleos del Valle del Magdalena (Socony-Vacuum Oil Company), reported April 18 that drilling had been halted at 7322 feet, total depth, to cement casing. The hole was plugged back about 400 feet and casing perforated for a production test at the top of what is regarded as an upper Cretaceous section that may or may not correlate with the producing zone tapped in the field's two other shutin wells to the west. These two earlier wells yield 20-gravity crude, and are rated capable of a combined flow of more than 5000 barrels daily. Details on the No. 6 completion will indicate whether or not the same pay section has been opened there.

If No. 6 turns out to be a good well it is probable that the next location will be made near or in the river, and that later wells may extend the field to the east side of the stream. Official data on the No. 6 well are being awaited with interest. More than 5½ months were spent in drilling this well.

Venezuela Line May Carry 126,000 Barrels Daily

The Creole Petroleum Corporation-Mene Grande Oil Company pipe line from the Jusepin-Mulata producing area of northern Monagas, Venezuela, terminating at Puerta la Cruz, has a rated capacity of 97,000 barrels per day, which is less than the economic optimum of the properties at their present stage of development.

If market conditions warrant, the capacity of the line can be boosted to 108,000 barrels by the addition of one more pump unit at the intake end, and to 126,000 barrels daily by putting in a booster station at an intermediate point on the line.

Brazil Retains Experts

De Golyer and Mac Naughton, consulting petroleum geologists and engineers, of Dallas, have been retained on a three-year contract by the government of Brazil, to serve as advisers to the National Petroleum Council in its program of exploration and development.

Refinery Output Absorbed in Spite Of Increased Crude Runs to Stills

Although crude production and refinery runs in the United States were increased in the week ended April 28 there was continued consumption that fully absorbed refinery output of the principal products.

U. S. crude production averaged 4,805,000 barrels daily, up 7000 from the week before and 374,000 a day or 8.4 percent more than in the corresponding week a year ago. Crude runs to stills averaged 4,780,000 barrels per day, having risen back close to domestic production again. This was 104,000 barrels a day more than runs in the preceding week and 451,000 a day or 10.4 percent more than the runs of 4,329,000 daily in the week ended April 29 last year. Crude stocks totaled 222,929,000 barrels on April 21 following an increase of 1,905,000 barrels within a week.

Production of gasoline, including natural blended at refineries, totaled 14,633,000 barrels in the 7 days ended April 28, down 44,000 from the week before but 1,617,000 barrels or 12.4 percent more than output in the comparable week a year ago. Stocks of finished and unfinished gasoline were seasonally reduced by 1,036,000 barrels to 94,068,000 barrels, and the latter amount was 5,763,000 barrels or 6.5 percent more than the 88,305,000 barrels held April 29, 1944. Civilian grade stocks of gasoline totaled 50,966,000 barrels April 28, compared with 51,547,000 one year previously, and all other gasoline stocks amounted to 43,102,000 barrels against 36,758,000 a year ago.

Production of gasoil and distillate fuel oil totaled 4,636,000 barrels in the week of April 28, up 60,000 from the week before and up 272,000 barrels or 6 percent over production in the corresponding week a year ago. Stocks of distillate were increased by the small amount of 54,000 barrels and then totaled 28,273,000 barrels on April 28. That was 1,873,000 barrels or 6 percent less than the 30,146,000 barrels held a year previously, although demand is stronger than a year ago.

Residual fuel oil production of 9,379,000 barrels in the week of April 28 was 76,000 more than in the previous week and 896,000 barrels or 10.6 percent more than output in the comparable week a year ago. Stocks were further reduced by 679,000 barrels to 39,813,000 barrels, a new low for modern times. This amount was almost 11,000,000 barrels or 21 percent less than the 50,631,000 barrels on hand April 29 last year.

Maryland Proposes Medium Tax on Cooperative Income

In a move more significant in its implications than in its probable immediate results, a Maryland senate committee last week held hearings on legislation which would impose the state's income taxes upon the net income of cooperatives after patron's dividends have been paid in cash. The measure indicates growing awareness on the part of the states of the extent to which the cooperatives are cutting into tax revenues.

Even in its moderate form, taxing cooperative income only after the payment of dividends while corporation income is taxed in its entirety, the cooperatives strongly opposed the legislation, declaring it was not feasible "for the simple reason that cooperatives have no income to tax."

It was explained that the cooperatives have no objection to paying taxes on their reserves but that the mutual benefit purpose for which they are organized leaves no taxable net income as the proposed law interprets it.

Opposition to the act also was voiced by business men competing with the cooperatives, but their objections were based on the mildness of the legislation, and they urged full taxation of cooperatives on the ground that they had assumed the dimensions and operations of "ordinary businesses."

While the Maryland legislature likely will not adopt the measure this session, the interest exhibited is seen as indicative of a growing belief that the tax concessions which fostered the growth of cooperatives have served their purpose and now should be withdrawn.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

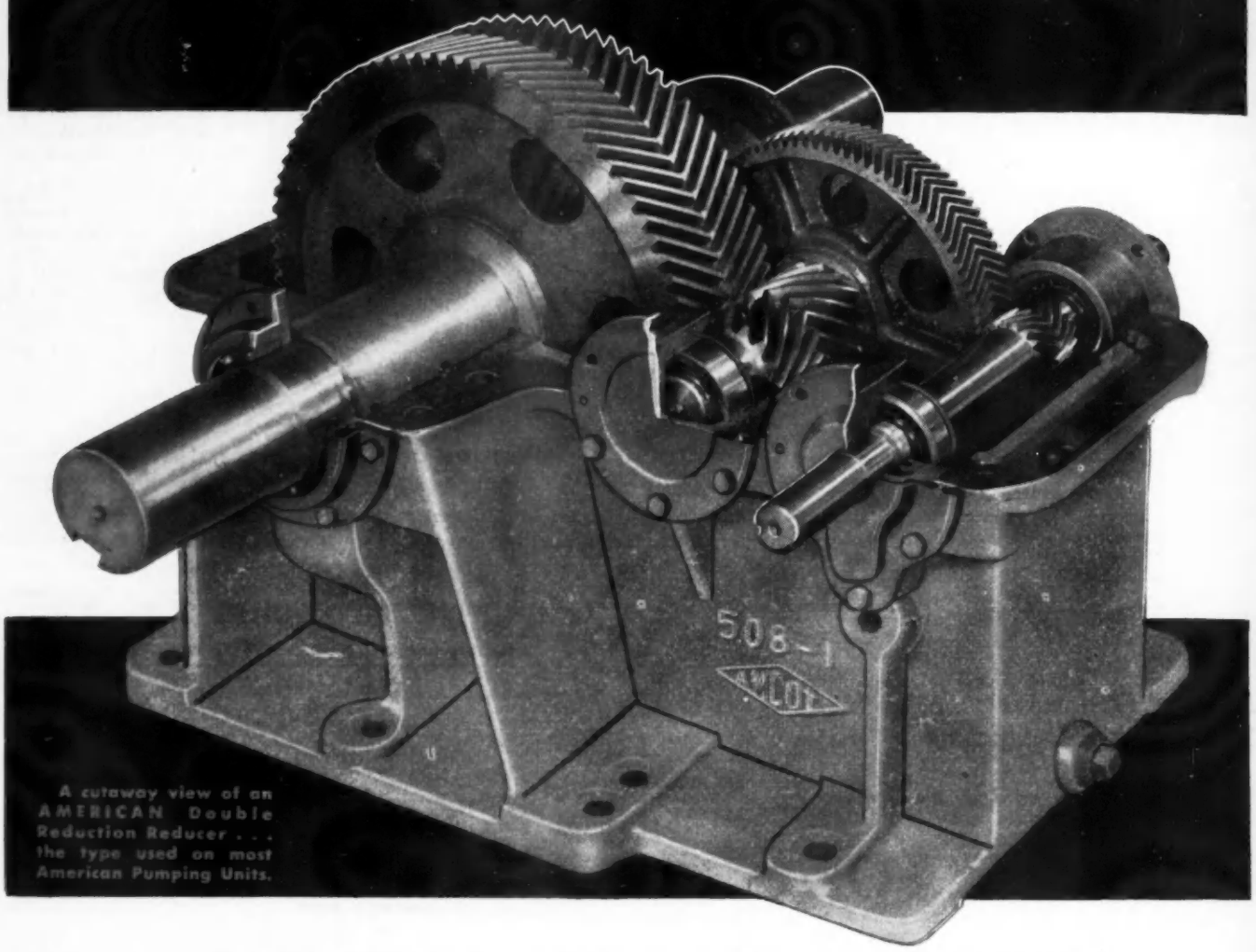
ITEM	Crude Oil Prod. Barrels Daily	Crude Oil Prod. Week Ended	Runs to Stills Barrels Daily	Runs to Stills Week Ended	Crude Stocks Barrels	Crude Stocks Week Ended	Gasoline Stocks Barrels	Gasoline Stocks Week Ended	Gasoil and Distillate Stocks Barrels	Gasoil and Distillate Stocks Week Ended	Residual Fuel Oil Stocks Barrels	Residual Fuel Oil Stocks Week Ended
Highs:												
1941	4,337	11–22	4,120	10–18	266,187	3–29	99,727	3–29	[1]54,983	11–15	102,448	1– 4
1942	4,337	2– 7	3,961	1– 3	263,208	3–28	[1]109,281	3–14	47,861	11–14	95,857	1– 3
1943	4,436	11–13	4,331	12– 4	245,752	5–29	94,159	3–20	47,187	11–27	72,881	1– 2
1944	4,762	9–30	4,798	12–30	240,992	1– 1	89,162	4– 1	48,863	10–28	64,744	10– 7
1945	[1]4,811	4–14	[1]4,803	2–24	223,782	4– 7	99,012	3–24	38,298	1– 6	56,074	1– 6
Lows:												
1939	[3]1,601	8–26	3,125	2–18	[2]229,127	10–12	71,152	10– 7	20,722	4–15	105,397	4– 8
1941	3,364	1–11	3,490	1–18	240,399	11–15	79,923	10– 4	28,382	4–12	90,914	7–12
1942	3,297	7– 4	3,393	5–23	231.896	12–12	75.934	12– 5	29,240	4–25	72,962	12–26
1943	3,821	1– 9	3,579	3–13	232,191	1– 9	68,182	10–16	30,732	4– 3	57,596	12–25
1944	4,357	1– 1	4,228	2–12	220,258	9– 9	76,302	1– 1	30,232	4–19	49,737	3–18
1945	4,678	1– 6	4,656	1– 6	[4]218,675	3– 3	86,616	1– 6	26,483	3–17	39,813	4–28

TRENDS OF 1944 AND 1945

Trends in Week Ended:	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gasoil and Distillate Production Weekly	Gasoil and Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1944:									
January 1	4,357	4,453	240,992	13,192	76,302	4,575	42,310	9,141	57,330
January 29	4,409	4,359	240,251	13,427	81,075	4,054	37,266	8,889	52,857
February 26	4,423	4,377	237,137	13,183	85,248	4,558	33,766	8,952	51,387
March 25	4,385	4,443	236,285	13,362	87,287	4,979	31,319	9,013	51,669
April 1	4,383	4,435	234,667	13,824	89,162	4,450	30,530	8,367	51,326
April 29	4,431	4,300	235,342	13,126	88,342	4,284	30,236	8,398	49,985
May 27	4,514	4,532	234,423	13,502	86,468	4,702	32,035	8,568	49,812
July 1	4,587	4,638	228,860	14,052	83,559	4,496	35,360	8,872	52,235
July 29	4,608	4,627	225,112	14,115	82,665	4,833	38,135	8,900	56,280
August 26	4,667	4,698	222,931	14,112	80,740	4,566	41,453	8,680	59,839
September 30	4,762	4,775	222,393	14,494	78,028	4,622	45,329	9,292	64,226
October 28	4,740	4,658	223,235	14,117	79,058	4,772	48,705	8,985	64,382
December 2	4,712	4,693	221,591	14,853	80,427	4,082	45,832	8,981	61,727
December 9	4,704	4,552	220,258	14,611	80,880	4,056	44,436	8,923	60,458
December 16	4,695	4,537	222,075	14,145	82,747	4,353	42,413	8,727	59,280
December 23	4,729	4,682	222,575	14,635	83,355	4,605	40,846	8,798	58,509
December 30	4,705	4,798	222,998	15,342	86,614	4,257	39,495	9,156	57,430
1945:									
January 27	4,727	4,756	221,310	14,957	88,223	4,843	33,651	9,252	51,119
February 24	4,777	[1]4,803	219,351	15,500	95,972	4,958	28,753	9,084	46,713
March 31	4,781	4,677	223,782	14,644	98,758	4,548	26,889	9,184	41,745
April 7	4,783	4,686	220,871	14,244	98,015	4,493	27,037	9,359	41,320
April 14	[1]4,811	4,770	221,024	14,270	97,410	5,006	27,886	9,137	41,538
April 21	4,798	4,676	222,929	14,677	95,104	4,576	28,219	9,303	40,492
April 28, 1945	**4,805**	**4,780**	.....	**14,633**	**94,068**	**4,636**	**28,273**	**9,379**	**39,813**
April 29, 1944	4,431	4,329	[5]233,632	13,016	88,305	4,364	30,146	8,483	50,631
Change:									
In week	+7	+104	+1,905	—44	—1,036	+60	+54	+76	—679
In year	+374	+451	—10,703	+1,617	+5,763	+272	—1,873	+896	—10,818
In year	+8.4%	+10.4%	—4.6%	+12.4%	+6.5%	+6.2%	—6.2%	+10.6%	—21.4%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922 due to shutdown of six Mid-Continent states. [4] Lowest since December, 1921. [5] Stocks, April 22, 1944.

These Improved Reduction Gear Features Mean More Profitable Pumping with AMERICAN UNITS



A cutaway view of an AMERICAN Double Reduction Reducer . . . the type used on most American Pumping Units.

The Reduction Gear is the heart of a good pumping unit, and AMERICAN Units offer you the important advantage of a Reducer that combines eleven features giving longer service with a minimum of servicing.

(1) Engineered with large safety factors; (2) Extra wide bronze crank shaft bearings, easily removable; (3) All shafts except crank shaft free to float; (4) All gears continuous tooth Sykes-herringbone; (5) All gears heat treated and lapped to a smooth fit; (6) Wide type Hyatt solid roller bearings and oil seal rings on high and intermediate speed shafts; (7) All bearings fully lubricated at slow speeds; (8) Alloy steel shafts, gears, and pinions; (9) Heavy ribs on gear case properly located for maximum rigidity; (10) Designed so gears and pinions can be easily turned over to place load wear on opposite faces of teeth; (11) Gear boxes interchangeable on same foundation bolt settings.

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Unit Pumpers • Pumping Jacks • Swings • Crown Blocks • Bull Plugs
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United Hearing Nears End; TGT Arguments Postponed

The Federal Power Commission last week was winding up hearings on the application of the United Gas Pipe Line Company for authority to construct a 24-inch pipe line from Carthage Field, Texas, to Ouachita Parish, Louisiana, with testimony going deeply into the possible postwar aspects of the project as distinct from the emergency needs which it proposes to meet.

To permit completion of the hearings, the commission postponed oral argument on the Tennessee Gas and Transmission Company project for construction of a 16-inch pipe line from the San Salvador field to its main line, on which testimony was taken early last month.

The two projects are closely linked, United planning to send 100,000,000 cubic feet of gas a day through its proposed line to the Tennessee company, and it is probable the two applications will be joined for purposes of oral argument.

Toledo-Columbus Pipe Line Is Planned by Sinclair

The Sinclair Refining Company is reported making plans for a new 8-inch pipe line from Toledo to Columbus and Steubenville, Ohio, at a cost of $4,000,000.

First such reports were made 8 months ago and at that time company officials said no definite consideration was being given this project. However, current reports say detailed plans have been completed.

The line would be a carrier of gasoline and other refined petroleum products.

At Steubenville, a terminal and bulk station is planned from which it will be possible to receive or dispatch oil products by water in conjunction with the operation of the line.

Magnolia Abandons Plans for West Texas Pumping Units

Magnolia Pipe Line Company has temporarily abandoned plans to install additional pumping units on its West Texas-Corsicana 12-inch trunk line to boost the annual rate from 55,000 to 62,000 barrels daily.

Priorities for the equipment had been granted. This sour oil carrier can handle in excess of 57,000 barrels daily during the summer months, while its 8-inch parallel line, which is devoted to the transportation of sweet crudes, is handling about 22,000 barrels daily. The 2 units may prove ample in view of the possibility of curtailment of sour oil movement before next winter.

11-Mile Line Is Planned In Hale County, Texas

Authority to construct 11.4 miles of 1¼-inch loop line in Hale County, Texas, and to install an additional 400-horsepower compressor unit at the McSpadden compressor station in Randall County, has been asked of the Federal Power Commission by the West Texas Gas Company.

The additional facilities were declared by the company to be required to provide sufficient transmission capacity to meet the estimated firm demands of its customers during the coming heating season.

Michigan Bill to Control Pipe Line Firms Is Beaten

Senate Bill 334, providing for the licensing and rate regulation of gas pipe line companies operating in or delivering gas to Michigan was defeated in the Senate.

The bill was aimed particularly at companies transmitting gas from other states into Michigan, where federal regulation might not prevent "unfair competition" with companies operating within the state and under state rate and operating regulations.

Panhandle Eastern Pipe Line Company is the sole natural gas importer in Michigan but the American Light and Traction Company has proposed a second line into the state.

Court Denies Rehearing In Gas Charges Case

The Supreme Court refused to reconsider its April 2 decision affirming the authority of the Federal Power Commission to consider gas wells and gas-gathering facilities, together with transportation and distribution facilities, in determining rate bases for natural gas companies.

The court denied petitions of the Panhandle Eastern Pipe Line Company and the Colorado Interstate Gas Company for a rehearing of the case, which was decided by a split court which could not agree upon the propriety of the procedure followed by the commission in deciding rate cases.

The court's opinion sharply criticized methods followed by the commission and indicated its authority is not unlimited under the natural gas act, and specifically that while it has the power to consider all properties of a company in setting rates it has no control over the drilling and spacing of wells or other activities which do not come within the scope of that law.

In rejecting Panhandle's petition, the court amended its original opinion to show that "it does not appear that petitioner requested the commission to make a segregation of properties used in the two classes of business" either during the proceedings before that body or in its application for rehearing.

Michigan Line Complete

Sohio Petroleum Company has completed 10 miles of 4-inch pipe line from the new Wheatland area, Mecosta County, Michigan, to Pure Transportation Company's terminal in the Sherman field.

Eight-mile Extension Built From Sour Lake Station

Empire Pipe Line Company has constructed an eight-mile, six-inch extension from its Sour Lake station to Grayburg station, near Beaumont, on the Magnolia Pipe Line Company's system.

This unit was built to handle 5000 barrels daily of Placedo crude, Southwest Texas, sold by Magnolia Petroleum Company to the Cities Service Oil Company for use in the latter's Lake Charles, Louisiana, refinery. The contract is for a seven months period, ending November 1, 1945.

Six Pipe Lines Pump Oil Over Rhine Into Germany

Six pipe lines, in four groups, are pumping oil across the Rhine River into Germany at the rate of 3 million gallons daily, the Wall Street Journal reports from the Supreme Headquarters of the American Expeditionary Forces.

Five lines already have been tied into the existing pipe line system, which extends back into France and Belgium, traversing the Seine, Marne and Moselle rivers.

The first two lines were strung in five days and were in service in two weeks after the collapse of the Remagen bridge, the report said.

Burma Work Difficult

Captain D. R. Criswell, independent operator and petroleum geologist of Olney, Texas, now with the Army "in China, along the Burma road," declares that the North Burma section, rather than the high mountains, is proving the toughest part of the pipe line construction work in that war theater. Congressman Mansfield of Montana recently described some of these construction difficulties. Captain Criswell for 15 months has been continually on pipe line work in India, Burma and now China.

Electronics Course

University of Houston, Houston, announces an 18-week course in advanced electronics, to begin May 14. The course will deal with high frequency techniques and the use of radar principles in oil exploration. Classes will be held on Tuesday and Thursday nights. Dr. James McMeekin-Kerr who will teach the course, is an honor graduate from Glasgow University, Scotland. Later he was with the British Royal Navy and more recently has been a research technologist with the British Air Ministry.

Spacing Rule Revised

The Oklahoma legislature has approved revision of the state's 40-acre center well spacing and under the new law operators may elect to drill one well to each 160-acre unit if production is below 8000 feet. Provision is also made for gas well spacing, one well per 640 acres.

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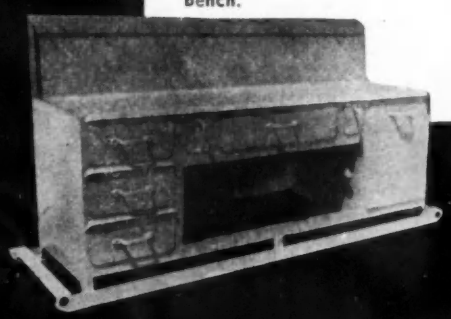

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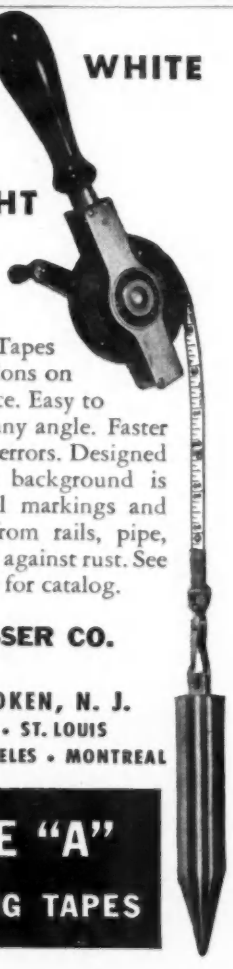

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☆ Oklahoma

Buell Area Well Produces; Creek County Gets Gas Pool

Garvin County well continues to test Pennsylvanian; Pottawotamie test drills to Wilcox after showing for a well; new pool opened near Buell area.

Garvin County: Flowing at an estimated rate of 40 barrels daily, Anderson-Prichard Oil Corporation's Newbern 1, SE NE SW 31-5n-4e, continued to test a Pennsylvanian sand at 2018-2020 feet. The well made 19 barrels the first 11 hours with 500,000 cubic feet of gas and increased its recovery at 2025 feet.

Pottawatomie County: Ashland Oil and Refining Company and J. J. Fleet's Loman 1, NE SW SW 1-10-4e, near a series of bends in the North Canadian River and near the northern Pottawatomie County pool, drilled on to the Wilcox after showing for a well in the Earlsboro sand at 4007-4020 feet. It is now below 4460 feet.

Stanolind Oil and Gas Company et al's Teas 1, NE SE NW 9-9n-4e, had porosity in first Wilcox sand at 4725 feet, but a drill-stem test showed only mud. A second sand picked up at 4805 feet showed stains and yielded an odor. A fishing job was delaying the testing.

Okfuskee County: The Carter Oil Company's Rogers 1, SE SW SE 2-10-8e, southwestern part of the county, had the second Cromwell sand at 3620 feet. Stains showed up in cores at 3631 feet. Drilled to 3635 feet, it picked up a little water sand.

Okmulgee County: Monarch Royalty Corporation of Oklahoma's West 1, SE SW NE 6-13-11e, shot the Wilcox from 3250-3280 feet. The well headed and flowed at a rate of 100 barrels a day to open a new pool near the Buell area.

Creek County: Williams-Copeland Drilling Company's Irby 1, NE SW NW 20-16-12e, northern part of the county, opened a gas pool in Dutcher sand at 2137-2175 feet and gauged 4,552,000 cubic feet of gas. It was shut in for connections.

Stephens County: Ashland Oil and Refining Company's Harley 1, C NW SW 3-2-7w, west of the old Palacine pool, found a show of oil in a cherty conglomerate at 4179-4181 feet. It was drilled below 4202 feet in shale before testing.

West Edmond: Anderson-Prichard's Stewart 1, C NW NW 24-15-5w, north extension to the Kingfisher County area, acidized with 1000 gallons through perforations at 7014-7026 feet and flowed 291 barrels in 5 hours through 1-inch choke. It showed some water intrusion and will be pinched back. If not able to reduce the water it will be squeezed off and retested.

Stanolind Oil and Gas Company's Reherman, C SE SE 1-14-5w, Canadian County area showed for a new well. It was tested natural at total depth of 7023 feet.

Peppers Refining Company reported completion of 6 wells in the field: Fanny O'Brien 3, C NW NE 8-14-4w, Oklahoma County area, for 70 barrels an hour at 7054 feet; McCune 7, C SE SE 17-14-4w, for 55 barrels an hour at 7038 feet; McCune 8, C NE SE 17, for 42 barrels an hour at total depth of 7036 feet; McKinnis 4, C SW SW 18-14-4w, for 150 barrels a day natural at 7026 feet; Deal 1, C SW SE 28-14-4w, for 20 barrels an hour at 6973 feet; McKinnis A, in C SE SE 13-14-5w, for 150 barrels a day at 7009 feet.

Continental Oil Company's Mason 3, C SE SE 5-14-4w, got a potential of 1602 barrels a day and McAuliff 1 C SE NW of Section 5, got a rating of 1962 barrels a day.

Griffin to PAW

Michael Griffin, Madison, Wisconsin, newspaper man, has been appointed assistant director of PAW public relations, succeeding Ludwig Caminita, Jr., recently promoted to director.

Griffin, Washington correspondent for *Time* for four years, more recently was a city editor in Louisville, Kentucky, resigning to join PAW. Prior to coming to Washington he worked for newspapers in New York, Chicago and other cities.

☆ Kansas

Stanolind's Meade County Test Completed as Gasser

Stanolind opens Meade County gas pool; Russell County test shows free oil; Ryan pool has new well.

Meade County: Stanolind Oil and Gas Company's Adams 1, SW SW SW 8-35-30w, 16 miles east of the Hugoton pool and 45 miles southwest of the Morrison pool of Clark County, has been officially completed for 35,000,000 cubic feet of gas in the Mississippi lime at 5861. The hole was originally drilled to 7750 feet and backed up to save the gas shown when originally drilled.

Comanche County: M. H. Watts and Jeff T. Boucher were trying to shut off water and complete as a combination well Boisseau 1, C SE NW 27-31-18w. Drilled to 6002 feet, it backed up to retest the Mississippi at 5118-5147 feet.

Russell County: Bennett and others Prediger 1, SW NW NE 3-15-12w, 1¼ miles north of the Gustafson Northwest pool, showed free oil at 3025-3031 feet

Wells Completed in the United States in Week Ended May 5, 1945

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative: This Year	Last Year
Alabama	1				1						1		7	6
Arizona														3
Arkansas	3				3						3	3	44	70
California	36	4			40				8	8	48	43	689	666
Colorado													13	8
Florida													4	
Georgia													2	1
Illinois	12			3	15	3	1		3	4	22	24	533	547
Indiana	1			1	2				2	2	4	5	98	100
Iowa													1	2
Kansas	12	1	1	3	17	1			2	2	20	27	488	604
Kentucky	4				4						4	6	142	231
Louisiana	5	2		4	11		1		1	2	13	16	314	225
North Louisiana	1	2		1	4						4	2	100	69
South Louisiana	4			3	7		1		1	2	9	14	214	156
Michigan	4	2		1	7		1	2	4	7	14	15	245	193
Mississippi	6			3	9				2	2	11	4	128	35
Missouri													11	7
Montana	9			1	10		1		1	2	12	6	74	91
Nebraska													2	7
New Mexico	5	1			6				4	4	10	7	172	142
New York	15		10		25						25	25	317	415
Ohio	2	3		3	8						8	5	203	282
Oklahoma	16	1	1	8	26	1			3	3	30	42	760	523
Pennsylvania	27	4	15	1	47						47	46	894	947
Tennessee														5
Texas	75	5	1	29	110		2		15	17	127	172	2,445	1,889
E.Tex.Bor. Co.'s	1				1				1	1	2	6	28	4
E. Texas Field														3
Rest of E. Tex.	5				5				2	2	7	5	71	99
North Texas	16			11	27		1		2	3	30	36	532	437
W. Central Tex.	1			3	4				1	1	5	10	160	133
West Texas	26			6	32				3	3	35	48	643	519
Tex. Panhandle	4	2		1	7				1	1	8	15	215	71
G. Coast, Upper	4				4				1	1	5	15	236	171
G. Coast, Lower	13	3	1	4	21				3	3	24	21	354	292
Southwest Texas	4			4	8				1	1	9	14	177	130
S. Central Tex.	1				1		1			1	2	2	29	30
West Virginia	1	5		4	10						10	13	250	319
Wyoming	2			1	3						3	3	66	54
Total U. S.	236	28	28	62	354	5	6	2	45	53	412	462	7,902	7,372

* Includes distillate wells. † Includes salt water disposal wells.

in the Lansing-Kansas City lime and was testing.

Pawnee County: Gulf Oil Corporation's Nelson 2, NW NW NW 2-20-16w, has given the Ryan pool a maximum well of 3000 barrels a day from the Arbuckle lime at 3765 feet.

☆ New Mexico

West Lovington Field is Defined to Northwest

West Lovington field defined to northwest; Drinkard-Yeso field test logs thin section of igneous rock in Permian; Ellenburger project near Hobbs is dry in the Devonian.

Lea County: The Texas Company's Blinebry 1, northeast offset to the Drinkard-Yeso field discovery, was drilling dry lime at 7515 feet after logging about 20 feet of quartz. This well missed the 2 Clear Fork zones other than a small volume of sweet gas at 6819-6988 feet.

Samedan Oil Corporation's Boyd 1, 1⅛ miles west of the Drinkard-Yeso field, flowed 9 barrels hourly natural on ¼-inch choke with lower section of the oil string disconnected due to bit becoming stuck in the casing shoe while drilling plugs from 5½-inch casing cemented at 6367 feet. Production is from broken saturation at 6370-6455 feet.

West Lovington: El Paso Natural Gas Company's State-Ramsco 1, 1⅜ miles northwest of production, entered the San Andres at 4880 feet, being 107 feet low, and quit in sulphur water at 5268-5303 feet. The field recorded its thirty-third producer with the completion of the Texas Company's State 5-A-H flowing 297 barrels of oil on 10-hour gauge through ¾-inch choke after using 3000 gallons of acid in San Andres at 4775-5150 feet.

Wildcats: Stanolind Oil & Gas Company's Jones 1, 3¼ miles southeast of the Hobbs field, entered the Devonian at 8150 feet and this zone proved barren in drilling at 8740 feet, where circulation was lost.

Eddy County: Grayburg Oil Company and the Western Production Company have unitized the deep rights under a portion of their producing leases in the Grayburg-Jackson field to undertake a 7500-foot test with the financial help of other property owners. Grayburg has purchased a heavy-duty rotary that will be available for the project. Eddy County has had comparatively few Lower Permian tests, and the deepest quit in Upper Pennsylvanian at 6761 feet. The drilling site will be assigned to SE 24-17s-29e, or NW 19-17s-30e.

Maljamar Deep Test: Phillips Petroleum Company's State-Lea-Mex 4, first Ordovician test for Western Lea County, was drilling dolomite at 11,640 feet. It is credited with drilling 240 feet of Ellenburger without indicating production.

Moving in Rig

After being delayed for several weeks because of high water, Jack Frazier, drilling contractor, is moving in a rig to drill Arkansas Fuel Oil Company's Louisiana State 1 in Calcasieu Parish, South Louisiana.

☆ West Texas

TXL Field Test Showing For Ellenburger Strike

A third prolific oil zone for the TXL field, Ector County, is from the Ellenburger; Andrews County deep wildcat passes up additional oil pay; 2 Ordovician wildcats assigned Crockett County.

Ector County: Shell Oil Company's Thomas 1-A, ⅞ mile north of the TXL field's Devonian oil discovery and a failure in this zone, was showing for an important oil strike in the Ellenburger, topped at 9695 feet, or 280 feet high. A drill-stem test at 9752 feet yielded oil and gas-cut mud, while a test at 9752-77 feet resulted in a flow of 35 to 40 barrels of 45-gravity oil hourly rate along with 600,000 cubic feet of gas daily. Flowing pressure built up from 2100 to 2900 pounds, and closed in pressure was calculated at 3550 pounds in 10 minutes. The oil flow increased to 37 barrels the last ½ hour when tester was used at 9777 - 9802 feet. Additional pay was logged in drilling to 9827 feet, where a test was pending.

Phillips Petroleum Company's T. P. Land Trust-Phillips 1-A, 1¾ miles southeast of the discovery and a failure in the Devonian, but prospective flowing oil producer in the Silurian at 8420-95 feet, was drilling Simpson shale at 9230 feet. Sinclair Prairie Oil Company's Williamson 1, 3 miles north by west of the discovery, entered the Glorietta at 5300 feet, being 49 feet low, and was drilling lime at 6320 feet.

The Texas Company's T. P. Land Trust 1-B, 1½ miles southwest of Devonian production in the TXL field, was making a production test at 9339 feet with 5½-inch casing cemented at 9105 feet in Silurian, topped at 8725 feet. No oil or gas appeared in swabbing down 4500 feet from the surface.

Andrews County: Shell Oil Company and The Texas Company's Ratliff-Bedford 1, 5 miles west by north of the Three-Bar 1-well Devonian pool, was drilling lime at 9871 feet. An incomplete drill-stem test at 9810-57 feet yielded 350 feet of gas-cut mud. This wildcat flowed oil from the 7800-foot Permian, and likewise from an unusualy thick section of Devonian, topped at 8780 feet.

Magnolia Petroleum Company's Martin 1, 2 miles south of the most southerly producer in the Fullerton-Devonian field, swabbed dry after recovering a negligible volume of oil and water following treatment with 2000 gallons of acid at 8695-8780 feet in Devonian. Another acid injection will follow. This wildcat was drilled to 10,118 feet, then plugged back

Mid-Continent Petroleum Corporation's University 2, Lease 11, became the fifth consecutive producer for the Fullerton-Devonian field, in flowing 103 barrels the first hour and 107 barrels the second hour after using 1000 gallons of acid through Devonian perforations at 8390-8519 feet.

Crockett County: Two Ellenburger wildcats have been authorized for the west and south portions of the county. Moore Bros. and Stanolind Oil & Gas Company will drill W. T. Noelke 1 in the southwest corner of Sect. 65, Block 1, I&GN Ry. Survey, and ¾ mile south of the Noelke shallow field. This project is 1¾ miles south by east of Moore Exploration Company and Olson Oil Company's Halff 2-C, which was abandoned at 6977 feet in Ellenburger, topped at 6740 feet. Gulf Oil Corporation's University 1-O, C NE NE Sect 12, Block 29, will fulfill a 10,000-foot depth obligation assumed when a $9000 cash bonus was paid for a 4160-acre block at the February lease sale by the University of Texas.

Gaines County: Amerada's Jones 1-A, C NW NE PSL Sect. 3, Block A-6, 4¼ miles southwest of the Yoakum County sector of the Wasson field, nearest production, recovered 300 feet of oil, gas and water-cut rotary fluid when tester was used at 8869-8920 feet. About 30 feet of porous zone was logged. Another drill-stem test was to be taken at 8940 feet. This wildcat entered the Tubb zone of the Clear Fork at 7250 feet with elevation of 3699 feet. The showing is from the Basal Clear Fork, or Wolfcamp.

Hockley County: The Texas Company's Coble 1, 2¼ miles west of its Montgomery pool discovery pumper, was swabbing 2½ barrels of fluid hourly, averaging 34 percent bs&w, after using 6000 gallons of acid in broken pay at 4770-4860 feet. The San Andres was entered at 3830 feet, or 6 feet low to the discovery, indicating an expansive producing area, that is subnormal in porosity.

Ward County: Gulf Oil Corporation's Edwards 1-E, 3 miles south by east of the Monahans field and 399 feet low on Ellenburger correlation with nearest producer, failed to indicate commercial production in drilling to 10,671 feet, or 139 feet in the Ellenburger.

Midland Basin: Humble Oil & Refining Company's Buchanan 1, Midland County prospect that indicated production near the 10,300-foot level, was drilling lime and shale at 11,270 feet.

Seaboard Oil Company and Standard Oil Company of Texas' Fasken 1, 7 miles northeast of the above prospect, was drilling lime at 4760 feet. Top of Yates was called at 2340 feet, being 156 feet high, and first lime at 3650 feet. In Upton County, Humble Oil & Refining Company's Parrott 1, which flowed oil when tested at 9550-76 feet, halted in chert at 10,744 feet to run electrical logging tool and to make caliper survey, while the company's Gresham 1, a mile west, was changing drill pipe at 7756 feet.

Winkler County: Phillips Petroleum Company's McCutcheon-Talvez 1, southeast edge of the Keystone-Ellenburger field, emphasized the prospects of the Devonian becoming a source of production in making a flow of 10 barrels of oil during the last 35 minutes of a drill-stem test at 7271-7423 feet. The gas volume attained a maximum rate of 3,200,000 feet daily. However, it will continue to the Ellenburger.

Humble Makes Changes

Humble Oil & Refining Company, Houston, Texas, announces changes in supervisory forces of the production department, as follows:

M. M. Rogers was transferred from the Hobbs District, Hobbs, New Mexico, to the Wasson District, Denver City, Texas, as district superintendent.

James S. Little, assistant district superintendent, was transferred from the Means District, Florey, Texas, to the Hobbs District, Hobbs, New Mexico.

Carl S. Ham, assistant district superintendent, was transferred from the Wink District, Wink, Texas, to the Means District, Florey, Texas.

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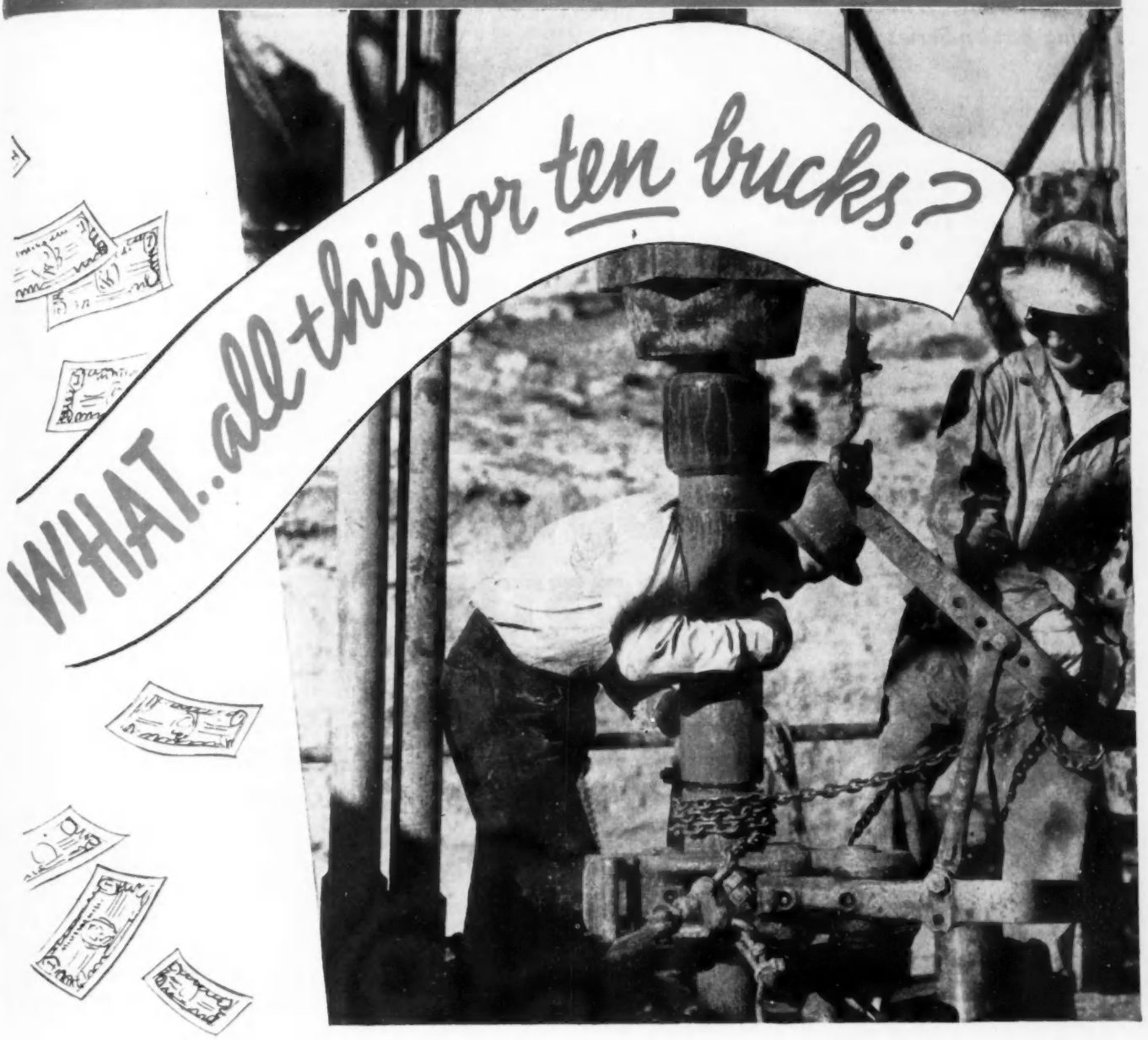

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☆ North Texas

Grayson County Wildcat Testing Strawn Series

Grayson County wildcat failed to make commercial producer from the Ordovician and is testing Strawn series; 2 Clay County prospects making small volume of oil.

Grayson County: The Pure Oil Company's Little 1-A, Gordonville geophysical prospect, was showing a small amount of oil and gas while unloading rotary fluid to test perforations in 3 Strawn zones at 7860-85, 7905-20 and 7930-40 feet. This wildcat exhausted showing of free oil in Ellenburger when tested in open hole at 9205-9919 feet. Perforations opposite Simpson saturation at 9135-70 feet tested 2 to 3 barrels of fluid hourly, averaging 20 percent oil, on swabbing test, but the volume of fluid decreased after attempting to acidize. Additional perforations at 9037-85 feet failed to increase the fluid volume.

Clay County: Wayne H. Hammon et al's Bryans 1, prospective Bend conglomerate strike near Dean, is rated at 30 barrels daily after acidizing perforations at 5861-98 feet.

Continental Oil Company's Thomas 1, Newport prospect, failed to make a producer in the Simpson after plugging back from 7106 feet, and was swabbing 30 barrels of oil and an equal volume of water from Strawn perforations at 4130-50 feet. Both wildcats made favorable production showings from these zones before running pipe.

Cooke County: The Texas Company's Gainesville National Bank 2, east offset to its Ordovician discovery in the Northwest Walnut Bend field, failed to make a commercial pumper at 5418-82 feet, and perforate opposite the Snuggs sand (Strawn) at 4764-79 feet. The company's Murrell 1, same area, swabbed 36 barrels oil and 30 barrels of salt water on 24-hour test while unloading after using 3000 gallons of acid in Ellenburger at 5408-94 feet. The latter will probably plug back for completion in the Snuggs sand, logged at 4764-80 feet. Sinclair Prairie Oil Company's Buck 1, north offset to the discovery, was completing in Snuggs sand perforations at 4758-68 feet, having abandoned a test of the Ordovician.

The Texas Company abandoned 2 of its 4 active wildcats in Cooke County last week. Morris 1 entered the Ellenburger at 4430 feet, and plugged at 4987 feet, while Sowder 1 quit in granite-wash and chert at 4122 feet. The company's Bulkely 1, 2⅛ miles east of the Walnut Bend field, was drilling shale at 5985 feet on Ellenburger contract, while Hutson 1-C, near the west edge of the county, was changing rigs at 3225 feet.

Sinclair Prairie Oil Company's Thomson 1, north offset to the 6800-foot sand discovery for the Sivells Bend area, swabbed 138 barrels of oil and 3½ barrels of water on a 9-hour test from Strawn (Beasley) sand perforations at 6828-56 feet, having set pipe at 6988 feet, with hole bottomed at 7007 feet.

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Carbon Black Plant Slated For Eunice, New Mexico

The Defense Plant Corporation will construct a $3,000,000 easy-process channel carbon black plant south of Eunice, New Mexico, with a capacity of 40 million cubic feet of gas daily producing approximately 29 million pounds of black per year.

Gas will be obtained from the South Eunice pool and will be furnished by the Lea County Water Company. The plant will be operated by the Charles Eneu Johnson Company of Philadelphia. The United Engineers and Construction Company of Philadelphia will furnish the plans and supervise construction and the plant is expected to be under partial operation in the fall.

Greater Oil Production For China Is Forecast

Expansion of oil production and refining in China was forecast last week with the announcement by PAW that the opening of the Ledo-Burma Road will be followed by shipment of oil equipment in large volume.

Working in cooperation with other war agencies and with representatives of the Chinese government, PAW has anticipated the opening of the road and some of the new material already has been delivered in Asian ports ready to be moved into China.

Security, PAW said, prevents any disclosure of the extent of United States assistance and the increase in production and refinery capacity that will result.

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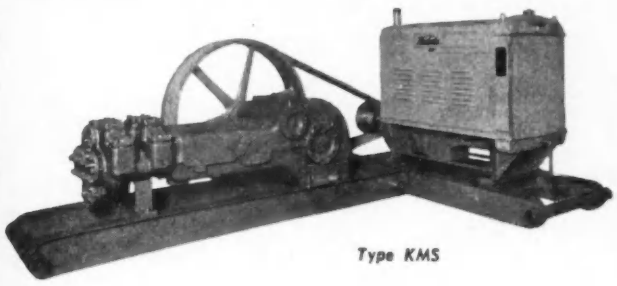

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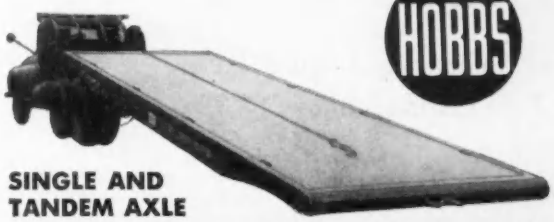

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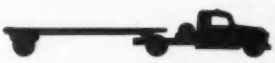

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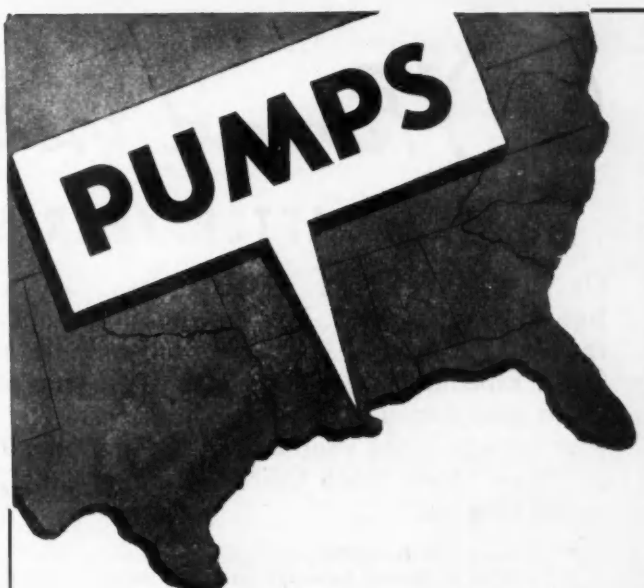

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☆ East Texas

Hunt Smackover Failure To Test Cotton Valley

Hunt County Smackover failure sets pipe to make production test of upper Cotton Valley; Henderson County's Travis Peak prospect abandoned; deep test in the Buffalo field has only nominal show of gas with salt water in the Rodessa.

Leon County: Shell Oil Company and the Lone Star Producing Company's Tandy 1, northwest flank of the Buffalo gas area, resumed drilling after recovering 270 feet of gas-cut mud in addition to salt water when tester was used in the Rodessa at 8944-9056 feet.

Henderson County: The Texas Company's Morse 1, Chandler prospect, was abandoned at 10,639 feet in Travis Peak, topped at 10,302 feet, after acid treatments. The formation lacked sufficient porosity to take the acid.

Hunt County: Ohio Oil Company's Popper 1, O. M. Roberts Survey and 2½ miles southeast of Cash, failed to indicate production in drilling Smackover series at 9190-9390 feet. Pipe was cemented at 8549 feet to test nominally porous zone in Cotton Valley, topped at 7043 feet.

Wood County: Amerada Petroleum Corporation's Faulk 3, Travis Peak test for the Coke field, was making a drill-stem test at 8123 feet in the Young, topped at 8085 feet. Fair porosity was noted in core at 8090-8109 feet, while core at 8109-23 feet yielded 3-foot zone of possible pay. A commercial gasser would be more profitable than an oil well since the gas is needed for the operation of nearby Paluxy wells.

Magnolia Petroleum Company's Harp 1-A, northwest offset to the most westerly producer in the Winnsboro field, cemented 5½-inch casing at 8358 feet with the hole bottomed at 8648 feet. Amerada's Gamblin 2, north offset to production, flowed 49 barrels of 52-gravity oil with gas-oil ratio of 3185-1 through ¼-inch choke from Gloyd perforations at 8160-90 feet.

Smith County: Phillips Petroleum Company's Hairston-Johnston 1, north offset to its South Tyler field Rodessa discovery, was drilling shaley-lime at 7990 feet in Upper Glen Rose. The company's Carver 1, east offset to its discovery, was drilling above the Georgetown at 5950 feet.

Harrison County: R. J. and E. D. Whelan's Allen Peal 1, a looming gas discovery about 2 miles northwest of Harelton, was reported at near 7500 feet, the contracted depth. Operators may go to 7800 feet.

Panola County: Humble Oil & Refining Company completed Pirkle 1, 3 miles southwest of Carthage townsite in the Smith survey of the Carthage field with a gauge of 34,000,000 cubic feet of gas from the Upper Pettit zone and 84,000,000 from the Lower Pettit. The Travis Peak was tested without success. Chicago Corporation has staked Carthage Gas Unit 5, formerly the Allison 2, 2 miles west of Carthage townsite, and is drilling below 1855 feet. Arkansas-Louisiana Gas Company is drilling below 2560 feet at the Daniels 1-C, 8 miles southwest of Carthage on the S. Humphries survey, while Arkansas-Louisiana's Morris 1, 5 miles southwest of Carthage was below 2800 feet.

San Augustine County: M. E. Davis is drilling below 5505 feet and was reported conditioning mud to drill on at Thomas 1, 5 miles west of San Augustine in the William Horne survey

Shelby County: J. C. Benedum and M. E. Davis have staked the wildcat, Pickering Lumber Company 1, about 6½ miles east of Patroon. It is to be an 8000-foot test or deeper in the Brittain survey. Materials are already being moved in.

MRC's Effort to Obtain Crude Barytes Revealed

Expansion of the nation's oil drilling program last year was responsible for a determination of Metals Reserve Company to stockpile crude barytes and ground barite, it was disclosed last week by Charles B. Henderson, president of the agency. So far, it was revealed, MRC has obtained only 13 percent of the unrevealed quantity which it set as its objective.

Discussing the operations of MRC, Henderson pointed to barite as an extreme example of the lengths to which the agency has had to go to insure adequate supplies of strategic materials.

"There was no war need for the public purchase of crude barytes or ground barite (both barium ores) until 1944, because supplies were ample to meet war needs in the earlier years," he ex-

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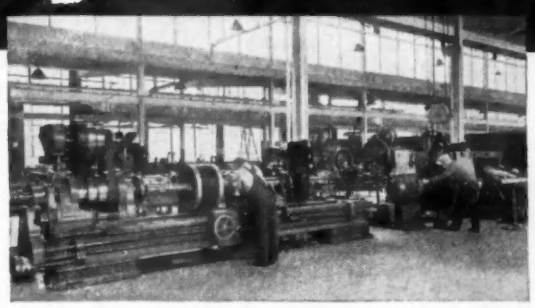

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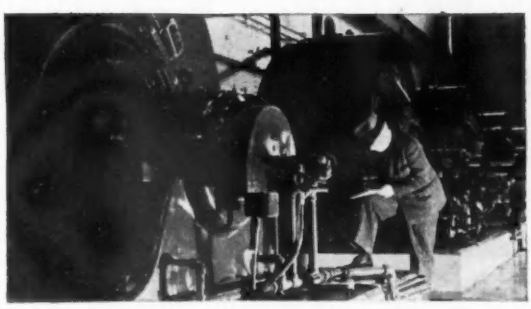

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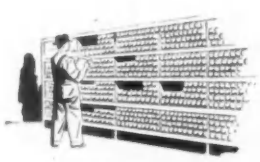

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plained. "When war requirements for oil had so depleted oil reserves that expanded drilling of new oil wells became necessary, however, demand for ground barite as a weighting material in drilling rose to such a point that domestic supplies appeared insufficient. Then the government purchasing agencies stepped into the picture."

Reclaimed Casing Used In Water-Flood Projects

Oil operators in the Mid-Continent area are reclaiming thousands of feet of badly needed steel casing and returning it to service for use in water-flood secondary recovery projects in northeastern Oklahoma and southeastern Kansas, for salt water disposal systems in Western Kansas and East Texas, and for oil gathering lines. The pipe is being reclaimed by lining it with cement materials resistant to corrosive fluids.

Peter Grandone, petroleum engineer at the petroleum experiment station, Bartlesville, Oklahoma, author of a Bureau publication describing the work, points out that pipe ranging from ½-inch to 20 inches in diameter has been salvaged by the cement-lining process. The cement is applied in a uniformly thick and smooth layer by centrifugal process, the thickness of the lining being varied with the size of the pipe. Fittings and couplings are also lined and the finished pipe can be threaded and cut the same as ordinary pipe.

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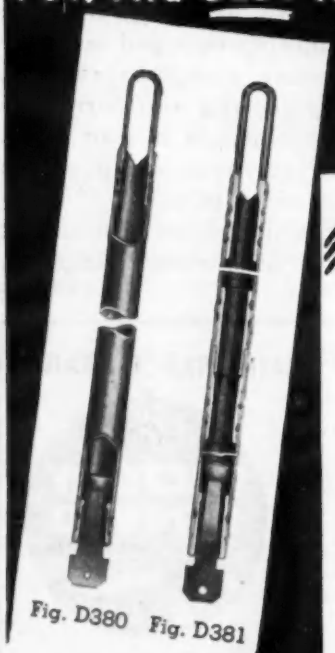

Fig. D380 Fig. D381

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(Fig. D380)
SPANG SECTIONAL BAILER
(Fig. D381)

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☆ South Central Texas

Wildcat West of Luling Is Testing in Buda Lime

Wildcat west of Luling tests in Buda lime; Hilbig field test prepares to spud; Dimmit County wildcat location staked.

Guadalupe County: R. V. Muckelroy's Tom H. Baker 1, wildcat 3 miles west of Luling, was reported testing after setting 7-inch casing at 2437 feet. Depth is 2443 feet. Six feet of Buda lime carrying an odor of oil were logged at 2431-37 feet.

Bastrop County: E. L. Stecke et al's B. Friske 1, outpost in the Hilbig field, 2½ miles northwest of Red Rock, was reported rigging up to spud.

Dimmit County: Caledonia Oil Company has staked a 3000-foot wildcat test northwest of Carrizo Springs. It is the Eardley Estate 1 in the McCorquodale survey.

Frio County: Humble Oil & Refining Company's H. & R. C. Roos 1, wildcat test 7 miles southwest of Charlotte, is drilling below 7500 feet.

Atascosa County: Humble Oil & Refining Company's E. J. Pruitt 5, in the Charlotte field, flowed 107 barrels of 37.5-gravity oil in 24 hours through a 3/16-inch choke from 6865-77 feet.

Colonel D. Harold Byrd Heads Texas Petroleum Group

The Independent Petroleum Association of Texas, long inactive, has been reorganized and Colonel D. Harold Byrd of Dallas named president.

Other officers elected at the reorganization meeting in Dallas were M. S. Church, vice president; W. L. Pickens, secretary and treasurer, and Miss Bess Bond, assistant secretary-treasurer.

Colonel Byrd said the immediate objective of the association is to raise the price of crude oil and put it on the same basis as other commodities.

Directors of the association are E. B. Germany, C. Andrade III, W. D. McBeem, Harry Hines, Douglas Forbes, Grady H. Vaughn, John Cowden, C. P. Burton, W. E. Hunter, Barron Kidd, and J. R. Block of Dallas; Myron G. Blalock of Marshall; J. R. Parten and J. S. Abercrombie of Houston; R. J. Byrd of Irving; Rogers Lacy, Joe Zeppa, and J. S. Hudnall of Tyler; John O'Hearn of Laredo; Fred Shields of San Antonio; Joe Danciger of Fort Worth, and Sylvester Dayson of Longview.

☆ Southwest Texas

Wildcat Test Is Staked Near Bruni, Webb County

Wildcat test staked north of Bruni; McMullen County tests are failures; test slated on Starr County wildcat.

Webb County: F. B. Lefevre has staked a 2900-foot wildcat test 7½ miles north of Bruni. It is the Pedro Leal et al 1 in the J. Poitevent survey.

McMullen County: Quintana Petroleum Corporation's South Texas Syndicate

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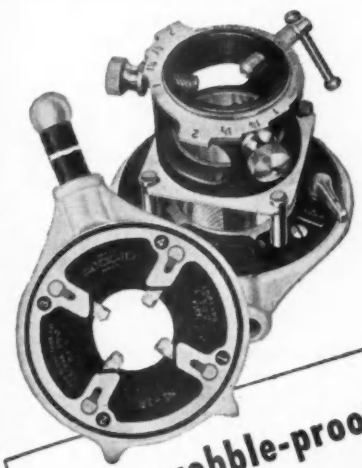

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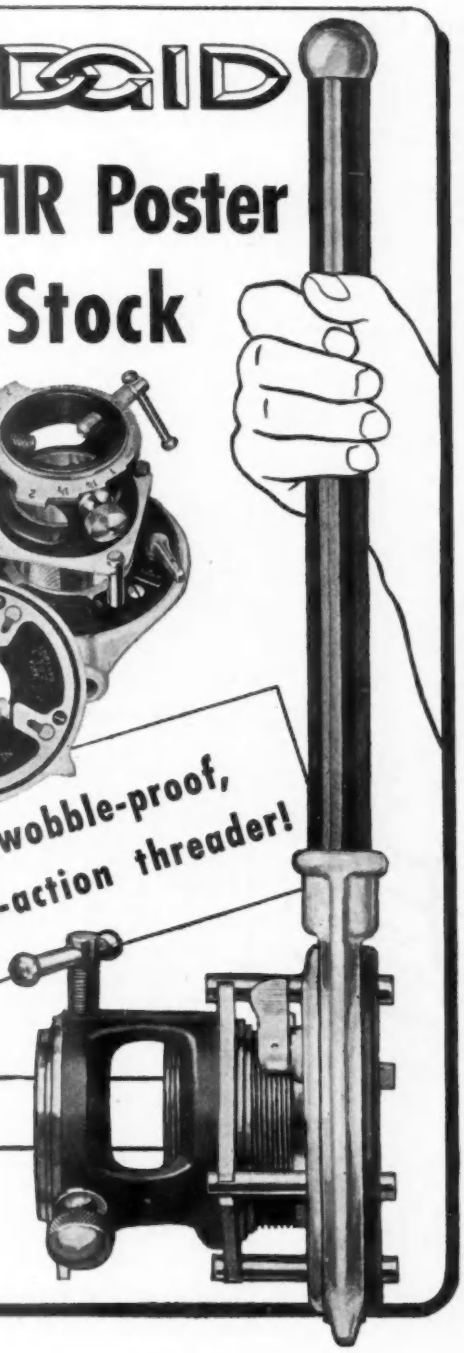

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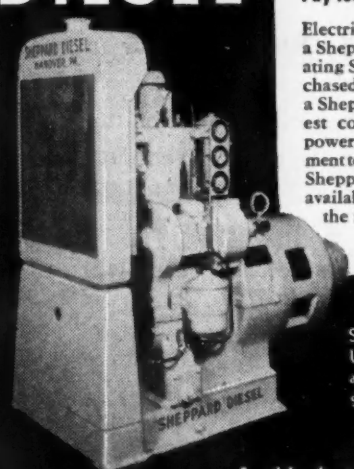

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2-F, wildcat 16 miles southeast of Fowlerton, has been abandoned at 3968 feet. The Reklaw sand was topped at 3945 feet but a drill-stem test is credited with recovering fresh water.

Santa Clara Oil Company's Volney M. Brown 1, wildcat in the R. H. Brown Section 8, is drilling below 1349 feet in sandy shale.

Starr County: John F. Camp & Sons' P. C. Garcia 1, wildcat 7½ miles north of Roma, was reported testing at 4535 feet.

V. F. Neuhaus and J. A. Tarver's H. P. Guerra et al 1, wildcat test just northwest of Rio Grande City, is abandoned at 916 feet.

T. E. Stephens has staked Santos Guerra et al 1, 4000-foot wildcat project, 30 miles northwest of Rio Grande City.

☆ Lower Texas Coast

Wilcox Sand Pool Being Opened in Goliad County

Another Wilcox sand pool being opened in Goliad County; second Word field well is testing; Bee County wildcat tests abandoned; additional sands with oil odor logged by Willacy County wildcat.

Goliad County: Transwestern Oil Company's William Altman Estate 1, wildcat 2 miles south of the Slick-Wilcox field, is opening a new Wilcox sand pool. On a 30-minute drill-stem test at 7648-52 feet, using 800-foot water cushion, ¼-inch chokes, 27 pounds working pressure, the recovery was 4500 feet of oil. Bottom hole flowing pressure was 1900 pounds with the shutin pressure 3225 pounds. The test will be carried deeper before pipe is set for completion. The Altman 1 is credited with being on the downthrow side of a fault.

Jackson County: Crown Central Petroleum Company's W. L. Moody Ranch 1, McFarland survey, 5 miles southwest of Francitas field in the Carancahua Bay area, has been completed in the Basal Frio sand to open a new field. Drilled to 9280 feet, pipe was perforated at 8834-40 feet with 11 shots and the well flowed 3 barrels of 42.3-gravity oil an hour through a 6/64-inch choke. Flowing pressure on casing was 1425 pounds and on tubing 1050 pounds. The well is closed in.

Lavaca County: Moran Gas Company's F. F. Kanhanek 1, in the Word gas field, bottomed at 6474 feet and has 5½-inch casing set at 5975 feet for a completion attempt. Reports say oil sand was recovered on cores.

Nueces County: Homer Easterwood's Mantor & Briggs 1, wildcat in the Casa Blanca area, has 5½-inch casing set at 6450 feet and is testing. A gas sand was cored at 6395-6405 feet. Depth is 7308 feet.

Bee County: Hewit & Dougherty's T. W. Wolfe 1, wildcat test 10 miles west of Pettus, has been abandoned at 7515 feet. The Slick sand was topped at 6635 feet and a drill-stem test at 6749-55 feet recovered only a small amount of condensate and salt water. Another test at 6756-60 feet recovered mud and salt water.

Rowan & Hope's J. T. Berreum Estate 1, wildcat test 4 miles east of Beeville, is abandoned at 4317 feet.

Willacy County: J. S. Abercrombie Company and Magnolia Petroleum Company's H. H. Dohe 1, wildcat 3 miles southwest of Raymondville, is coring below 9668 feet in sand shale. Sidewall samples were taken below 9400 feet and additional sands carrying an oil odor were reported. This wildcat is credited with having picked up 6 sands with an oil odor below 8500 feet.

Jim Wells County: Six miles northeast of Falfurrias, Fidelity Oil & Royalty Company staked an 8200-foot wildcat.

Bids Rejected

Attorney Greek L. Rice, secretary of the Mississippi Mineral Lease Commission, announced that recent bids for state land were rejected. Among the bidders were Cities Service Oil Company, The Texas Company, Stanolind Oil & Gas Company, Shell Oil Company, and Hunter Jones & Associates.

☆ Upper Texas Coast

Gas-Distillate Discovery Made in Harris County

Gas and distillate discovery made in Harris County; Magnolia prepares to test Woodbine sand in Walker County wildcat; Sinclair Prairie opens distillate production in Colorado County; Blue Lake extension oiler drills deeper; deep test staked in Austin County.

Harris County: A new gas and distillate field has been uncovered about

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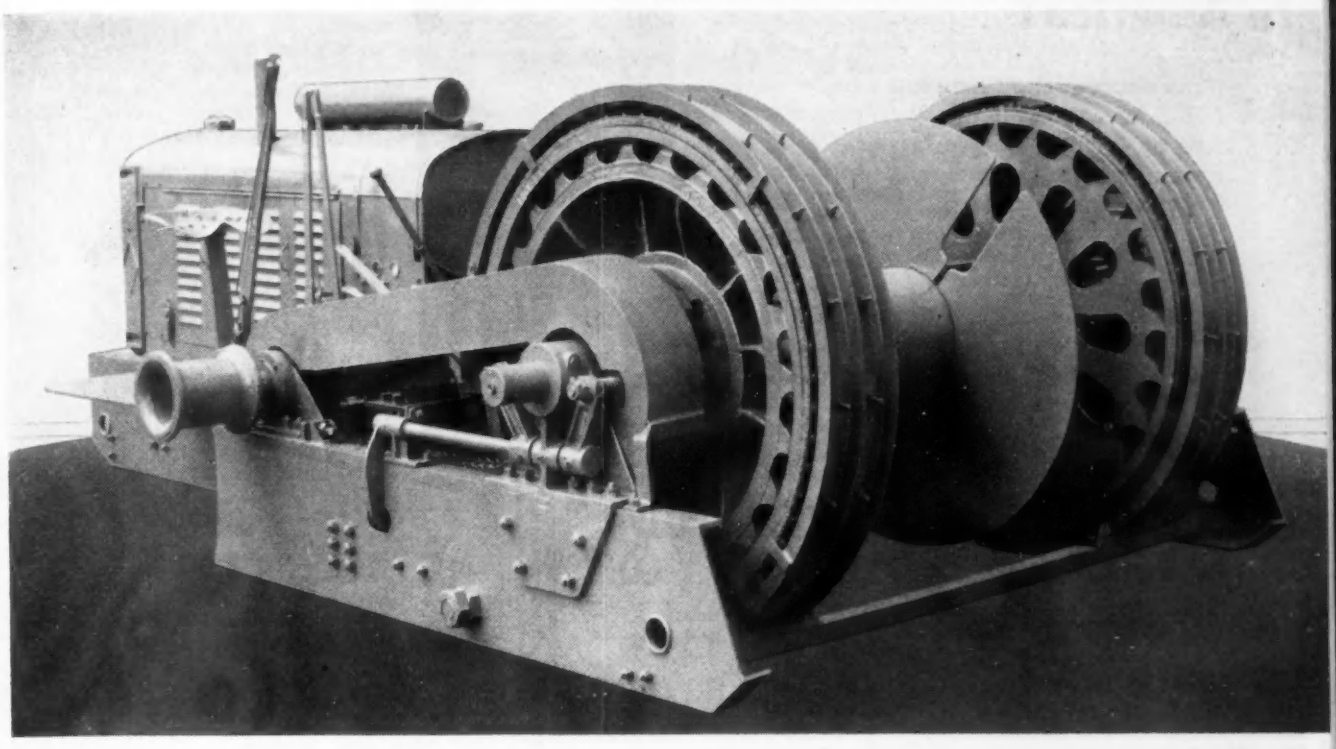

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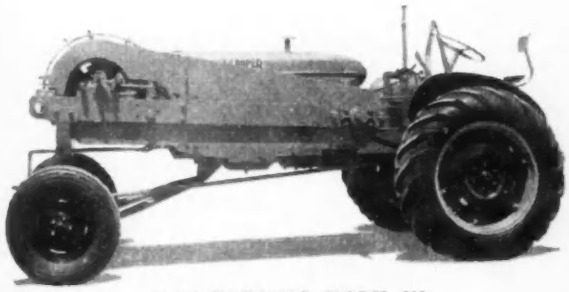

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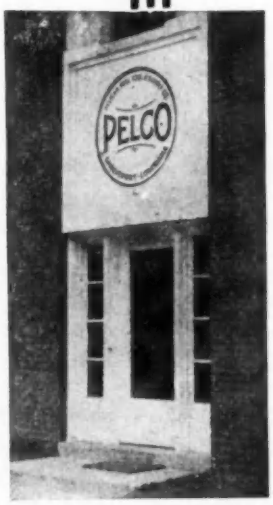

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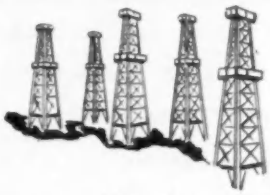

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midway between the Katy and Richardson fields at Josey-Bruton's David Rorick, Jr., 1, H&TC Survey, Sect. 31. Drilled to 7556 feet, 5½-inch casing was set at 7353 feet and perforations made at 7044-54 feet. On initial test the well flowed an unestimated amount of gas and distillate through a ⅛-inch choke. Production is from the Yegua formation. The well now is shut in and operators are erecting tanks. A potential gauge is scheduled this week.

Walker County: Interest along the lower Woodbine sand trend is focused on Magnolia Petroleum Company's Thompson Brothers-Texas Long Leaf Lumber Company A-1, Wills survey, south of the Kittrell field. Operator set a string of 5½-inch casing at 9960 feet, drilled out to 9969 feet and recemented. Late in the week preparations were being made to test in the Woodbine formation, reported topped around 9950 feet.

Colorado County: Sinclair Prairie Oil Company's Fehrenkamp 1 has opened a new gas and distillate pool 5 miles northeast of Rock Island. Drilled to 11,000 feet, pipe was set on bottom and operators plugged back to 9703 feet. Perforations were made at 9678-95 feet and on a 24-hour gauge the well flowed 27 barrels of 50-gravity distillate with a gas-oil ratio of 28,707/1. Tubing pressure was 3100 pounds with the casing sealed.

Brazoria County: Glenn H. McCarthy's W. W. Smith 1, in the Blue Lake field, was drilling deeper after flowing at the rate of 163 barrels of 36-gravity oil daily on a 34-minute drill-stem test at 8852-61 feet. This well is northwest of McCarthy's Ida Dudley Wilson 1, Blue Lake discovery well, which was completed earlier in the year as a pumper from 8702-14 feet.

Stanolind Oil & Gas Company's Adolph D. Suderman 1, northeast of Chocolate Bayou, ran an electrical log to 12,004 feet and is drilling below 12,380 feet in shale.

Austin County: Location for a 10,000-foot wildcat test has been staked 2 miles southeast of New Ulm by the Sinclair Prairie Oil Company. It is the W. A. Schweke A-1 in the James Tylee survey.

Matagorda County: Union Oil Company of California is preparing to start operations at its Elsie Richers 1, proposed 11,500-foot test in the Hamman field.

Northeast of the East Bay City discovery well, Stanolind Oil & Gas Company's Elizabeth L. Barth 1, I&GN survey, was drilling below 4672 feet in shale and lime.

☆ South Louisiana

Venice Producer Gauged; Iota Field Well Testing

Deep sand producer gauged in Venice field; Iota field well testing; deeper sand opened in Avery Island pool; 12,000-foot tests spotted in Vermilion and St. Mary parishes.

Plaquemines Parish: Tide Water Associated Oil Company's Manhattan Land & Fruit Company 1-C, 23-21s-30e, new deep sand discovery well at Venice, flowed 253 barrels of 35-gravity oil daily through a 5/32nd-inch choke from perforations at 11,867-898 feet. Tubing pressure was 1250 pounds with the gas-oil

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THE OIL WEEKLY

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ratio being 740/1. This opens the deepest production in the multiple-sand Venice field.

Also in Plaquemines Parish, Sid W. Richardson has spotted location for a new 11,500-foot wildcat test. It is the Magnolia Orange Grove 1 in 8-18s-26e.

Acadia Parish: Union Sulphur Company's L. E. Medlenka 2, east offset to the discovery well in the Iota field, was testing in sand at 9678-90 feet after plugging back from 11,001 feet.

Iberia Parish: Humble Oil & Refining Company is opening a new deep sand in the Avery Island field. The Petit Anse Company 4-B, 23-13s-5e, flowed at the rate of 44 barrels of 44.6-gravity oil daily through 3/16-inch bottom and ⅛-inch top chokes on a 14-hour drill-stem test through perforations at 11,208-216 feet. Tubing pressure was 2400 pounds. Perforations were being squeezed for a new test at 9219-22 feet.

Vermilion Parish: The Ohio Oil Company has staked a 12,000-foot wildcat test in the Leroy area. It is the Lloyd D. Traupe 1, 8-11s-3e.

Lafourche Parish: C. I. Production Company's Octave Aucoin, wildcat test in 56-17s-19e, 2 miles northwest of the Lake Long field, has been abandoned at 10,500 feet. The well topped water sand at 9687 feet.

St. Mary Parish: Fifteen Oil Company has completed a new producer in the Charenton field. The South Coast Corporation 7 flowed 220 barrels of oil daily through a 9/64-inch choke from perforations at 6688-94 feet. Tubing pressure was 1200 pounds.

In the Bayou Cardin area, Humble staked location for a 12,000-foot wildcat, the Miami Corporation 1-H.

☆ North Louisiana

Benton Area's Possible Extension Holds Interest

Interest focused on possible extension of Benton area; single completion listed; 7 locations announced.

Richland Parish: In the Delhi field, Murphy-Sun Oil Company added a producer in Ella M. Barrier 4. Two hundred sixty barrels of oil flowed through a 3/16-inch choke from perforations between 3337-3347 feet. Gas-oil ratio is 450-1. Depth of the well is 3375 feet and gravity of the oil is 41.8. Gulf Refining Company is to drill M. S. Baughman 1, 28-17-9e, also in the Delhi field In the same field, Murphy-Sun Oil will drill the J. E. Holt C-2, and the J. E. Holt 4 in 21-17-9e.

George Schoonmaker et al were drilling at 5032 feet at the Gold Mine 1, a wildcat, and the R. W. Williams' wildcat, Stone 1, was drilling at 5077 feet.

Concordia Parish: In the Lake St. John field, The California Company is to drill the F. D. Brown 4 in 3-9-10e.

Caddo Parish: Joe M. Burnham and Mose Browning plan to drill J. W. Browning 1 in 22-22-16w with company tools. The test will be drilled to 2650 feet in the Paluxy on a 40-acre surface. Joe Mucher et al will drill S. L. Herold 1, 15-21n-16w Phillips Petroleum Company's extension project for the Longwood field, the Leake 1, reached the 4854 foot zone.

Claiborne Parish: Gulf Refining Company abandoned the Mrs. M. Patton et al in 25-5-11.

Sabine Parish: W. I. Nowlin abandoned Brown Lumber Company 1, in 11-710, a wildcat.

Bossier Parish: Interest has not lulled at the Vaughn and Hurley's Ellerbe 1, extension to the Benton area, although completion has been slow. A cement channel job was run and plans were to reperforate the "D" sand.

Bienville Parish: A new oil pool was indicated at The Ohio Oil Company's wildcat, Woodward-Walker 1, as a result of a 25-minute drill-stem test which recovered 235 feet of oil-cut mud and 90 feet of oil with no salt water. The test was made from the Pettit Lime after cores taken from 6789-6804 feet recovered 12 feet with the bottom 5 feet having a showing of oil and cores from 6804-6816 feet recovering 10½ feet with a showing of oil. Packer was set above 6789 feet. Gravity of the oil was 40.

Field Named

The name "Ramon" has been given the field discovered by Bridwell Oil Company's Ramon Garcia 1, Jim Wells County, Lower Texas Coast, Joe Ward, chairman of the Oil Field Nomenclature Committee of the South Texas Geological Society, has announced.

Oil Tax Nets $100,000

Mississippi's oil severance tax brought almost $100,000 for March production, the State Tax Commission revealed. The total was $99,486.07 as compared with $91,062.07 in February. This brought collections to $1,146,728.74 for the first 13 months of the tax operation.

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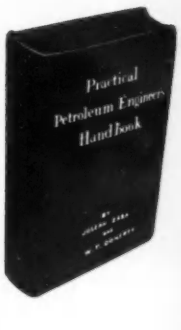

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This handbook was compiled and published for the purpose of saving the time of operators, engineers, superintendents, foremen and others.

TABLE OF CONTENTS

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☆ Arkansas

Three Wells Completed And Others Are Testing

Drilling activity slumps with no new locations recorded; 3 wells completed and a number testing.

Union County: Hickey and Wallingsford completed M. L. Sumners 7, C NE NW SW 13-18-14, at a total depth of 2264 feet. The well is pumping with no gauge. It is in the Hillsboro field.

Columbia County: T. W. Lee completed Thompson 4 and 5 in the Stephens-Smart field. The No. 4, SE NE SW 14-15-20, is flowing at the rate of 40 barrels of 32-gravity oil per day through open hole between 2110-42 feet. Total depth is 2142 feet. The No. 5, 14-15-20, is also from an open hole with production from 2112-38 feet with 32-gravity oil flowing at the rate of 40 barrels daily.

In the West Atlanta field, Skelly Oil set 5½-inch casing at 8301 feet and drilled out to 8300 feet. Perforations were made between 8296-8300. Tubing was set at 8295 feet and packer at 8254. The well was preparing to swab. In the Stephens-Smart field, R. H. Crow prepared to test Taylor B-2, SW SE NE 12-15-20.

Wildcats: McAlester Fuel cored James Lime at 3402-57 feet at the Couch-Staggs 1, C NW SW 11-16-20 in Columbia County. In Washington County, Plymouth Oil Company was fishing for bit at 2107 feet at the Chester B. Spies 1, north and east of the southwest corner of 24-13n-30.

February Oil Production Barely Under Record High

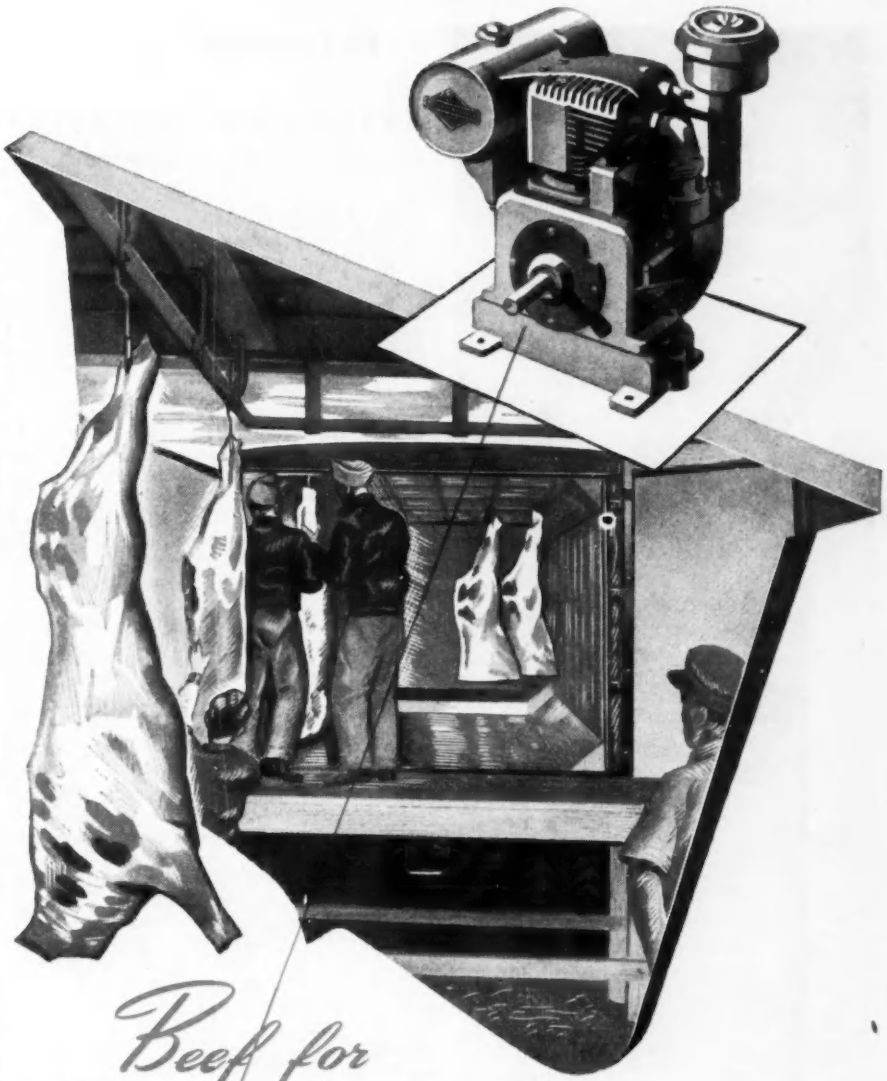
Daily average production of crude oil ran 4,759,000 barrels in February, an increase of 11,000 barrels over the preceding month and only 7,000 barrels under the all-time high recorded last September the Bureau of Mines has reported.

Indicated demand for domestic crude, however, was 4,821,600 barrels, a new high exceeding the former record (September, 1944) by 31,900 barrels, the bureau disclosed. A withdrawal from stocks of 63,100 barrels daily resulted, reducing total stocks of crude, domestic and foreign, from 227,763,000 to 226,012,000 barrels during the month.

A new record also was hung up in crude runs to stills at 4,817,000 barrels daily, an increase of 137,000 barrels over January.

The gasoline yield jumped from 40.3 percent in January to 41.5 percent in February, the bureau report showed, and total deliveries for military and civilian motor fuel were about 57,000,000 barrels, or 11 percent higher, on a daily average basis, than in February, 1944. Total stocks of refined oils dropped 6,188,000 barrels during the month, from 234,625,000 to 228,437,000 barrels.

Bureau of Labor Statistics figures placed the price index for petroleum and products at 64.3 in February, unchanged from January, but 0.3 point above February, 1944. The crude oil capacity represented by the refinery data in the report was 5,017,000 barrels, indicating an operating ratio of 96 percent, compared with 92 percent in February, 1944, and 79 percent in February, 1943.



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☆ Mississippi

Six Field Wells Completed; Adams Test Is Abandoned

Six field producers completed; Adams County test abandoned; Hinds County wildcat coring below 9560 feet; new producer for Pickens field.

Jasper County: Gulf Refining Company's Carrie Husband, Unit "C" 1, NWc 29-1n-13e, Heidelberg field, has been swabbed in with an initial production of 141 barrels of 21.9-gravity oil per day. Production is from perforations opposite the Christmas sand at approximately 5000 feet. In the West Heidelberg field Gulf's Morgan-Myers Unit 1, NEc 6-10n-10w, is about to be completed after swabbing an estimated 75 barrels of 25-gravity oil per day. Fluid is standing at 2000 feet from the bottom of the hole and a pumping unit will be installed.

The well was drilled to 5146 feet in gray sand and shale. Gulf's Lyon-Cook Unit 1, SWc NE SW 20-1n-13e, East Heidelberg field, was coring in the Eutaw horizon at 4973 feet. Sinclair-Wyoming Oil Company's Pearl Bethea 1, 12-1n-12e, in the East Heidelberg field, recovered 30 feet of mud cut with oil from a drill-stem test taken in the Morrison zone at 4872-85 feet. Cores just above that point indicated oil shows. Well is running casing. In the West Heidelberg field 2 wells were abandoned after no commercial shows had been indicated. Gulf Refining Company's Masonite Corporation "A" 4, 26-1n-12e, was abandoned at 6116 feet in the Tuscaloosa after the Eutaw had been cored continuously with no shows. Gulf's Elizabeth Sullivan 1, 6-10n-10w, was abandoned in the Tuscaloosa zone at 5732 feet. In the same field Magnolia Petroleum Company's Herrington-Windham 1, 35-1n-12e, was brought in with an initial production of 265 barrels of 25-gravity oil per day with production coming from the Eutaw horizon.

Hinds County: The Carter Oil Company's W. G. Davis 1, C NE NE 15-3n-4w, only wildcat venture in the county, is coring below 9560 feet in the Comanche horizon. A drill-stem test at 9502-85 feet indicated a slight show of gas, but cores taken below that point recovered only reddish shale with streaks of sand. Coring continued.

Adams County: The California Company's Ella G. Lees 3, 29-7n-1w, reportedly found more than 50 feet of oil sand at approximately 10,294 feet. If this well develops commercial production it will mean a northern extension of the Cranfield field. California's A. M. Ratcliffe 3, 68-7n-1w in the Cranfield field, is flowing oil at the rate of 312 barrels per day with a gas-oil ratio of 1180/1. The well reached 10,415 feet in the basal sand. California's M. T. Hickingbotham 2, 66-7n-1w in the Cranfield pool area, is drilling below 9950 feet with no shows reported. Humble Oil & Refining Company's Ida Stowers 2, 35-9n-2w, wildcat which has occasioned much interest, has been abandoned at 7000 feet. No shows had been reported from tests.

Wayne County: Gulf Refining Company's Wausau Southern Lumber Company 3, SEc SW NE 12-9n-9w, Eucutta field, has been completed with an initial flow of 125 barrels of 23.3-gravity oil per day through open tubing. The well

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was swabbed and production is coming from perforations opposite the Eutaw zone.

Gulf's G. S. Stanley 24, SWc SE 6-9n-8w in the Eucutta field, was running 7-inch casing after reaching 5212 feet with no shows reported. Humble's G.M.&O.RR.CO.14, 7-9n-8w in the Eucutta area, swabbed oil from perforations at 5203-13 feet and was preparing to install pump.

Lincoln County: California's M. R. Douglas 1, 11-6n-8e in the Mallalieu field, was still waiting on pump after swabbing at the rate of 13 barrels per hour.

Madison County: Carter's Anderson-Wicker 1, NEc NE SE 10-11n-3e in the Pickens area, has been completed with an initial production of 75 barrels of oil pumped in 13 hours. Considerable salt water was encountered. Carter's John Whitworth 2, NE SW 3-11n-3e, was waiting on orders after reaching 4879 feet in the Eutaw horizon.

Clarke County: Kirby Petroleum Company's Long Bell Petroleum Company A-2, C NW NE SE 25-1n-17e, Langsdale field, pumped 125 barrels of oil per day in its completion. The well reached 3789 feet in the Eutaw. Kirby's Long Bell Petroleum Company C-1, C NW NE SW 30-1n-8e in the Langsdale field, was installing pump after encountering shows of heavy oil in the Eutaw.

Yazoo County: Union Producing Company's Jennie Stevens 21, 12-10n-3w, deep test in the Tinsley field, topped the Cotton Valley at 8610 feet and is drilling below 9274 feet. Last show of oil was reported from tests at 7473-83 feet.

Alabama

Hunt Oil Company's C. H. Utsey 1, 33-11n-4w in the Gilbertown field, Choctaw County, has been completed with an initial production of 86 barrels per day. The well was drilled to 2712 feet. Also in the Gilbertown, Hunt's Maggie Utsey 1, 33-11n-4w, drilled to 3483 feet, has run electrical log and was waiting on cement. W. O. Woodward's Mary Green et al 2, 31-11n-4w, swabbed dry after perforating at 3520-27 feet. The well is waiting on workover rig at 3698 feet.

Marengo County: Davidor & Davidor were moving in material for a new wildcat test in C SW NE 18-12n-1e, on farmout acreage from Lion Oil Refining Company.

Monroe County: A 4000-foot wildcat is slated to start operations in 24-10n-10w by June 15. Land is owned in Fee by McGowan Lumber Company.

Florida

Humble Oil & Refining Company's Gulf Coast Realty 4, 20-48s-30e in the Sunniland area, Collier County, is drilling below 11,582 feet in dark lime with no shows reported. Humble is building roads to its new venture in the field, Gulf Coast Realty 5, C SW SW 20-48s-30e.

Gulf County: The Pure Oil Company's Kate Gaskin 1, NWc NE NW 19-5s-9w, wildcat, is drilling below 5000 feet with no shows.

Bay County: Magnolia Petroleum Company's State Block 4-B, C SW SW 31-3s-15w, is drilling below 600 feet.

Highlands County: Humble's Carleton Estate 1, C SW NE 17-38s-23e, is below 7252 feet in chalk and lime.

Charlotte County: Humble's Lowes-Treadwell 1, C SW NE 17-42s-23e, was fishing at 2730 feet in dolomite.

☆ Illinois Basin

New Horizon Discovery in Illinois Being Completed

New horizon discovery in Woodlawn pool, Illinois, being completed; Hamilton County test opens new area; test near South Rural Hills pool is discovery.

Jefferson County: The Texas Company is completing a discovery of a new horizon in the Woodlawn pool at Eubanks 1, SW NW SE 35-2s-1e. Originally drilled and completed as a Benoist sand producer, the well later was deepened to McClosky lime which showed for a small yield. Deepened from the McClosky, the well carried saturation in the Devonian lime at 3702-13 feet and 3729-46 feet. After a treatment of 2500 gallons of acid the well swabbed 68 barrels of oil in 24 hours and was still testing the new pay zone for the field.

Hamilton County: T. B. Dirckson's Presely 1, SE SE SW 5-6s-6e, 1¼ miles northeast of the Rural Hills pool, opened a new area when it swabbed 225 barrels of oil in 24 hours from Aux Vases sand at 2099-3115 feet after a 40-quart shot.

Two miles west of the South Rural Hills pool, Tide Water Associated Oil Company's Johnson 1, SE SE NW 36-6s-5e, is a discovery after pumping 67 barrels of oil and 14 barrels of water from Aux Vases sand at 3228-50 feet, the latter figure total depth. The well was given a 45-quart shot before pump test.

Jasper County: Robinson and Puckett

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Stock in Federal Reserve Bank		450,000.00
U. S. Government Securities		74,209,167.41
Other Bonds and Securities		378,752.54
Cash in Vault and with Banks		76,185,269.00
Total		$234,356,427.58
LIABILITIES		
Capital	$ 7,500,000.00	
Surplus	7,500,000.00	$ 15,000,000.00
Undivided Profits		1,040,635.32
Reserve for Dividend—Payable April 2, 1945		150,000.00
Reserve for Taxes, Etc.		867,339.98
DEPOSITS:		
Individual	$119,176,031.30	
Banks	69,552,285.72	
U. S. Government	28,570,135.26	217,298,452.28
Total		$234,356,427.58

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were still testing at Roberts 1, NE NE SE 26-7n-10e. The well showed for production in McClosky lime at 2600-10 feet during a 1-hour drill stem test.

Wayne County: Robinson and Puckett were preparnig to test Molt 1, NE NW NW 33-1n-8e, a possible discovery in Aux Vases sand below 3050 feet. Located 1½ miles south of the Clay City pool, the well during a 1-hour drill-stem test showed 150 feet of gas, 50 feet of oil and 50 feet of oil-cut mud.

Effingham County: Ashland Oil and Refining Company recovered 1900 feet of oil during a drill-stem test of 1 hour at Weibking 1, SE SE NE 29-6n-7e, 4 miles north of Bible Grove.

☆ California

Kern Well Flows at Rate Of 1872 Barrels Daily

Kern County well flows at rate of 1872 barrels daily on test; pipe stuck in 3 Shell deep tests; 5 wildcats drilling in Orange County.

Kern County: Kern Oil Company's 28-34, 34-29-29, flowed at a rate of 1872 barrels of 41-gravity clean oil daily on an hour's test April 28 and also made 750,000 cubic feet of gas. The production came through 10 holes shot in the casing from 4687-4692 feet. Still to be tested is 112 feet of solid oil sand behind the 7-inch casing from 4575-4687 feet. This well is in the north outskirts of the town of Edison and about 3 miles north of the old Edison field. The first well drilled in this new area was completed last September by British American Oil Producing Company-Capital Company, and was a rather small producer. The field is called Race Track Hill.

Los Angeles County: Shell Oil Company was fishing for drill pipe at 3 of its 4 deep tests in older fields in the county. Stakemiller-Rose 1 at Long Beach, after swabbing some oil at 10,717 feet, pulled liner and will deepen. Alamitos 48A, same field, depth 12,098 feet, stuck drill pipe at 7996 feet and was fishing. Reyes 135 at Dominguez, depth 12,455 feet, was fishing for stuck drill pipe. Shell's Rindge 24 at Inglewood pumped water with a trace of oil at 9471 feet.

Orange County: Five wildcats are drilling in this county. General Petroleum Corporation's Librow 1 near Buena Park, is drilling below 6600 feet and Mohawk Petroleum Corporation has located a wildcat in the Kreamer area. The Ohio Oil Company's Gardena Comm. 1 is drilling below 5680 feet near the town of Gardena. Skylark Manufacturing Company's Howe 1 at Yorba Linda bailed fresh water at 4340 feet and placed plug at 1350 feet. Off the tip of Huntington Beach field on the Orange County side, Atha Exploration's Newland 12-3 bailed sand at 4960 feet and will make more hole.

☆ Rocky Mountain Area

Crooks Gap, Wyoming, Well Has Good Initial Output

Second well at Crooks Gap, Wyoming, has large initial production; second well drilled in Half Moon appears better than discovery; Elk Basin and Byron fields have completions and South Elk Basin discovery is a flowing well from perforations in the Tensleep.

Wyoming

Lamb Anticline, 3 miles east of Basin, in the center of the east flank of the Big Horn Basin, has a test started for the Madison limestone, estimated at below 4000 feet. The operation is Hageman-Pond- Hanlon's Stanolind 1, SE SW SE 12-51n-93w, Big Horn County, spudding at 52 feet.

Park County: Husky Refining Commany's Morrison 2, NW NE SW 23-51n-102w, second well in the Half Moon pool, was completed for 250 barrels of oil daily from the Embar formation. The well was drilled to 3563 feet in the Tensleep sand but present production is from the Embar, topped at 3340 feet.

At Elk Basin The Carter Oil Company's Henderson "D" 8, NE SW SW 24-58n-100w, was completed on pump for 365 barrels of oil daily from the Tensleep, entered at 5422 feet, with hole bottomed at 5612 feet. In the same field Stanolind's Tract 3, well 3, NE SE NE 30-58n-99w, an extreme east flank test, appears to be a failure in tests made to 6408 feet.

Continental Oil Company's wildcat discovery in the South Elk Basin area, 2½ miles south of the Elk Basin field, was swabbed and started to flow into pits at the rate of 40 barrels of 28.4-gravity oil per hour. The well is being cleaned and some additional increase in production is expected. Character of the well is similar to wells in the main Elk Basin field, as to pressures, gas-oil ratio and gravity.

Fremont County: At Crooks Gap, Sinclair Wyoming Oil Company brought in its second big producer, rated at around 2000 barrels per day, from the Muddy-Lakota sands from 4715 to below 5060 feet. The well is Unit 2, NW SE NE 13-28n-93w. A drill-stem test at 5013-5047 feet recovered 2625 feet of oil in 15 minutes with a flowing pressure of 1000 pounds. Last year's discovery well at Crooks Gap was completed for 1400 barrels per day.

Big Horn County: The Ohio Oil Company has completed Hoskins "A-B" 1, 15-56n-97w, north flank well in the Byron field for a pumping gauge of 325 barrels daily from Tensleep sand topped at 5340 feet.

☆ Michigan

Coldwater Field Receives New Horizon Discovery

Sohio Petroleum Company's Gas Unit 1, C SW 29-16n-6w, Coldwater field, Isabella County, gauged 8,400,000 cubic feet of gas in Michigan Stray sand for a new horizon discovery. Dundee oil development since discovery in August last year has proven 1200 acres with 2000 to 2500 acres possible maximum. Development of shallow gas pay at 1400 feet should add valuable profit return in the field's overall development.

Bay County: Gulf Refining Company's Jerry 1, NE SE NW 16-14n-6e, Essexville field, failed to show oil pay in the Detroit River beds and hole will be plugged back from 3995 feet to test Dundee pay cored at 2848-58 feet.

☆ Canada

Wildcat in Calling Valley Reaches Madison Objective

Calling Valley Oils 1, joint operation of 9 independent oil companies on the Priddis-Black Diamond Anticline east of Turner Valley, reached its Madison Limestone objective last week at 9727 feet. The wildcat is in lsd 6 24-21-3w5, 1¾ miles east of the drilling Royalite-New Valley 1 (now at 9700 feet with Madison expected at about 10,200 feet) and is about 4 miles east of North Turner Valley's easterly wells.

Shell Oil Company of Canada's Jumping Pound discovery, on a limestone fold east of the north continuation of the Turner Valley body, is about 28 miles north and west of the Calling Valley venture. That discovery well topped the Madison at 9618 feet.

Completion of the well will be watched with interest, in some measure because of views expressed by the Dominion Oil Controller's geologist, Dr. G. S. Hume, in an article that appeared June 26, 1944, in THE OIL WEEKLY.

Dealing with oil possibilities in the vicinity of the Turner Valley field, Dr. Hume advanced the belief that the source of that field's oil and gas lies to the east. In view of the fact that oil was found in a narrow, depressed, fault block east of the Main Turner Valley body (at elevations up to 5602 feet subsea), Dr. Hume said "it logically follows that the oil accumulation preceded the faulting which resulted in the west tipped Turner Valley fault block."

He concluded that the assumed fold east of Turner Valley (being tested by the Calling Valley and New Valley wells) and "perhaps others east of it," seem to offer some of the "best prospects in Alberta for the occurrence of oil in an area where the strata are known to have been copiously oil-bearing to provide the oil and gas in such a field as Turner Valley."

The Calling Valley well was setting casing to the top of the Madison last week.

Toronto Syndicate 1, lsd 1 6-22-13w4, 5-company venture 11 miles northwest of the Princess area Devonian discovery well, assumed new importance when it confirmed Madison Limestone at 3255 feet, 110 feet higher than originally expected. Drilling was proceeding below 3360 feet after penetrating 9 feet of oil-saturated pinpoint porosity in the top of the Madison (not yet tested).

Drilling was proceeding to the Devonian Dolomite (which is producing 34.5-gravity oil at Standard Oil Company of California's discovery well 11 miles southeast from 3965-83 feet.

In addition to the oil show in the top of the Madison, the Toronto Syndicate well obtained a heavy gas flow plus a little oil in the Basal Colorado sand from 2880-2892 feet (gas rate 1½ to 2 million cubic feet daily through 3/16-inch choke), and unknown gas flow volume in the Bow Island sand.

Nicklos Moves Offices

Nicklos Drilling Company, Houston, has moved its office from the Oil & Gas Building to the San Jacinto National Bank Building.

EXPLORATORY COMPLETIONS

CALIFORNIA WILDCATS

Fresno County — Failure: Jacalitos Oil's Plaughter 1, 30-21s-16e, Jacalitos area, abnd 4469 ft.

Kern County — Failures: Independent Exploration Co.'s Lambert Lands 1, 35-26s-27e, West Ring area, abnd 3210 ft.

Richfield Oil's West Mt. View A-26-15, 15-30-28, West Mt. View area, gray sandy silt, abnd 6055 ft.

J. J. Tavis & Associates' 3, 8-27s-28e, Mount Poso area, abnd 2287 ft.

North American Oil Consolidated's 63, 28-31s-23e, Greeley area, gray sand, abnd 11,756 ft.

Solano County—Failures: Amerada's Atkinson 1, 10-7n-2e, Dixon area, abnd 5044 ft.

Amerada's Comber 1, 19-6n-2e, Dixon area, abnd 6148 ft.

Yolo County—Failure: Superior's Corcoran 1, 5-8n-1e, Davis area, Capay shale 3310 ft, Hooper sd 3930 ft, abnd 4646 ft.

ILLINOIS WILDCATS

Jefferson County—Failure: Magnolia's Witzel 1, ne nw se 22-1s-1e, dry & abnd 2440 ft.

Vermilion County—Failure: Sam J. Burkett's Pinnell 1, sw nw ne 12-21n-14w, abnd 1307 ft.

White County—Oil Discovery: H. H. Weinert's Kisner-Turner 2, nw ne se 31-5s-9e, Paint Creek 2892 ft, flow 98 bbls, td 2902 ft.

White County—Failure: T. Blake Dirickson's Grant 1, ne sw sw 36-6s-9e, abnd 3104 ft.

INDIANA WILDCATS

Posey County—Failure: Fisher Oil Co.'s Webb 1, sw sw sw 2-7s-13w, abnd 2813 ft.

Sullivan County — Failure: Texas Co.'s Wabash Vy. Land & Coal Co. 1, ne nw sw 28-7n-10w, abnd 2873 ft.

KANSAS WILDCATS

Pawnee County—Failure: Rinehardt & Dono-

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van's Strockebrand 1, sec 27-23s-15e, Miss 1467 ft, abnd 1492 ft.

Stafford County — Failure: Virginia Drlg. Co.'s Fischer 1, ne se se 25-21s-13w, Lans 3297 ft, Vi 3594 ft, Simp 3643 ft, Arb 3702 ft, abnd 3737 ft.

SOUTH LOUISIANA WILDCAT

Lafourche Parish—Failure: C. I. Production Co.'s Octave Aucion 1, 660 fr s&wl 56-17s-19e, 2 mi w ne of Lake Long fld, 200 ft low on structure, abnd 10,500 ft.

SOUTH LOUISIANA NEW PAY TEST

Plaquemines Parish—Venice Deep Discovery: Tide Water's Manhattan Land & Fruit Co. 1-C, 990 s 1650 e of nwc 23-21s-30e, perf 11,867-98 ft, flow 253 bbls 35-gr, 5/32-in, gor 740/1, tp 1250 lbs., td 12,431 ft.

MICHIGAN WILDCAT

Allegan County — Failure: Del Fortney's Hayes 1, ne se se 15-4n-12w, abnd 1717 ft.

MICHIGAN NEW PAY TEST

Isabella County—Coldwater Gas Discovery: Sohio's Gas Unit 1, c sw 29-16n-6w, Stray sd 1389 ft, pay 1390-1404 ft, flow 8 mln gas, td 1404 ft.

MISSISSIPPI WILDCATS

Adams County — Failure: Humble's Ida Stowers 2, 35-9n-2w, elev 96 ft, abnd 7000 ft.

Webster County—Failure: P. M. Barton-Joe E. Skelton's Joe Skelton 1, nec ne ne 6-21n-11e, elev 352 ft, Eutaw 1290 ft, Tuscaloosa 1595 ft, Comanche 2020 ft, abnd 2910 ft.

MONTANA WILDCAT

Toole County—Failure: Texas Co.'s C. Ekholt 2, c n½ sw nw 3-33n-1e, Madison 1662-69 ft, water, abnd 1670 ft.

MONTANA OUTPOST

Toole County — Kevin-Sunburst Extension: Consolidated Gas Co.'s Gillespie 1, se nw se 15-35n-4w, Ellis-Madison 2333 ft, 125 ft oil 12 hrs, acidize & test, td 2341 ft.

NEW MEXICO WILDCATS

Lea County—Failures: Culbertson & Irwin's Culbertson-Federal 1, c sw ne 26-22s-32e, elev 3727 ft, anhy 1015 ft, salt 1155-3255 ft, Delaware ll 4817 ft, Delaware 4914 ft, abnd 4977 ft.

El Paso Nat. Gas Co.'s State-Ramsco 1, c sw sw 36-16s-35e, 1⅝ mi nw W. Lovington fld, elev 3964 ft, anhy 1990 ft, salt 2130-3100 ft, San Andres 4880 ft, abnd 5303 ft.

C. M. Pearce et al's State-Cities Service 1, c ne sw 31-16s-33e, elev 4245 ft, anhy 1380 ft, salt 1494-2510 ft, Yates 2705 ft, Red Sand 3608 ft, Grayburg 4050 ft, San Andres 4415 ft, abnd 4575 ft.

Texas Co.'s Reeves 1, c nw se 26-18s-35e, elev 3873 ft, anhy 1785 ft, Yates sd 3300 ft, Yates grains 3340 ft, Red Sand 4500 ft, abnd in sw 5400-5655 ft.

OKLAHOMA WILDCATS

Garvin County—Failure: Vickers Petroleum Corp.'s Mallew 1, sw sw se 18-1n-1e, Pont 1990 ft, abnd 2504 ft.

Lincoln County—Failure: J. J. Fleet et al's School 1, se se sw 16-16n-6e, Prue 3073 ft, abnd 4028 ft.

Seminole County — Failure: C. W. Davy's Yahola 1, ne sw sw 9-7n-6e, Mayes 4250 ft, Wx 4726 ft, abnd 4744 ft.

WEST TEXAS WILDCATS

Glasscock County—Failure: I. Weiner and J. E. Petty's W. P. Edwards 1, 1200 ft out sec of T&P Ry. 11, blk 34, T-2-S, elev 2510 ft, abnd 965 ft.

Pecos County—Failure: Humble's State National Bank (El Paso) 3, c sw se T.&St.L. Ry. 23, blk 140, elev 2562 ft, Yates 930 ft, San Andres 1760 ft, abnd 4551 ft.

Scurry County—Failure: Geo. P. Livermore's Rollins 1, 2461 ft wel 330 ft snl H&TC Ry. 160, blk 97, elev 2330 ft, anhy 622 ft, San Andres 1621 ft, abnd 3954 ft.

WEST CENTRAL TEXAS WILDCAT

Eastland County—Failure: Kerlyn Oil Co.'s J. Fentem 1, 330 fr m/n/sl 330 fr m/w/wl of 240-ac tr, James Lahee sur No. 17, elev 1775 ft, abnd 3785 ft.

SOUTH CENTRAL TEXAS WILDCAT

Wilson County—Ormsby Oil Discovery: L. D. Ormsby's Williamson Heirs 1, 330 fr s&wl Williamson Heirs 240.66-ac tr, M. Contis sur, elev 375 ft, sand 5042 ft, pump 127 bbls 18.3-gr oil, 10% wtr, td 5062 ft.

SOUTHWEST TEXAS WILDCAT

Zapata County—Failure: Geo. H. Echols' T. Dominguez 1, 660 sw of nel 660 se of nwl 401-ac lse, Porc 31, Sh "A", abnd 3310 ft.

LOWER TEXAS COAST WILDCATS

Jackson County—Failure: Geo. Parker-Chas. L. McCune's D. Strane 1, 660 fr sly/sl and sly/wl 500-ac lse, Robt. Gutherie sur, elev 80 ft, abnd 5841 ft.

Jim Wells County — Failure: Dee Davenport's O. T. Burns 1, 330 fr sl 660 fr wl J. Almond sur 8m 160-ac of 1441-ac lse, abnd 5012 ft.

Karnes County—Failure: S. H. Howell's H. L. Handy 1, 660 sw 660 se fr n cor blk 9 Carlos Martinez sur 1550-ac lse, abnd 7500-ft test.

UPPER TEXAS COAST WILDCAT

Chambers County—Failure: Sun's A. V. Wolfean et al 1, 2100 e of wl 700 s of nl R. O. McManus sur on 40-ac unit, Double Bayou area, abnd 9225 ft.

EAST TEXAS WILDCATS

Falls County—Failure: H. C. Cockburn et al's Gilliam-Cockburn 1, 250 sw of m/e/nel 3000 nw of m/n/sel of D. Barclay sur, 1 mi nw of Stranger, elev 408 ft, Pecan 1030-1216 ft, Austin 2136-2370 ft, Buda 2696 ft, Edwards 3064 ft, 1st anhy 4245 ft, Rodessa 4400 ft, Travis Peak 4820 ft, Cotton Valley 6188 ft, Buckner 6735 ft, Smackover 7134-7564 ft, salt 7564 ft, abnd 7606 ft.

Rusk County — Failure: H. A. Clark and Jeff Bolton's Kangerga Bros. 1, 330 ft out sec of 53-ac and B. W. Heath sur, elev 353 ft, base Wilcox 1565 ft, Navarro shale 2560-2730 ft, Pecan 2960-3250 ft, top Austin 3744-3913 ft, Woodbine 3913 ft, abnd 3970 ft.

NORTH TEXAS WILDCATS

Cooke County—Failures: Texas Co.'s Morris 1, 330 out of nec of M. Wilkinson sur A-1124, 2½ mi sw Woodbine, elev 830 ft, Ellenburger 4430 ft, abnd 4987 ft.

Texas Co.'s Sowder 1, 330 ft out sec of w 250 ac of Thos. Toby sur A-1044, elev 1076 ft, abnd 4122 ft.

NORTH TEXAS OUTPOST

Young County — Farmer-Garvey Extension: Standard of Ohio's J. R. Garvey 1-C, 330 ft out swc of TE&L Co. sect 1802, 1¾ mi w of nearest deep prod, elev 1122 ft, Bend 4392 ft, Mississippi 5095 ft, Ellenburger 5275 ft, pump 37 bbls 44-gr oil, 50 bbls bs&w, 6500 gals acid via Mississippi perf 5092-5154, 5170-5200 ft, td 5415 ft, pb 5296 ft.

WILDCAT STARTS

CALIFORNIA

Fresno County: Texas Co.'s Boychester 3, 18-21s-15e, Coalinga area, lcn.

Kern County: Richfield Oil's San Emigdio A-1, 8-11n-21w, San Emigdio area, lcn.

Richfield Oil's KCL Stine Canal 3, 1, 21-30s-27e, Gosford area, lcn.

Western Gulf's 68-33, 33-29s-27e, Stockdale area, lcn.

Los Angeles County: Continental's Turnbull Comm. 6, 13-2s-11w, Turnbull Canyon area, lcn.

Orange County: General Pet. Corp.'s Lebrown 1, Buena Park area, lcn.

Pongratz Pet. Co.'s Brufat & Peters 1, 20-6s-10w, Costa Mesa area, lcn.

Pongratz Pet. Co.'s Brufat & Peters 2, 20-6s-10w, Costa Mesa area, lcn.

Tulare County: Tide Water's Hoffman 24, 33-21s-25e, Tipton area, lcn.

FLORIDA

Madison County: Hunt Oil Co.'s J. W. Gibson 4, sec ne ne 5-2s-11e, ru.

ILLINOIS

Clay County: Paul Doran's Brissenban 1, se se sw 16-3n-7e, lcn.

Effingham County: William H. Krohn's Haarmann 1, sw sw sw 25-8n-5e, lcn.

Franklin County: H. R. Randall et al's Cypher 1, nw ne sw 13-5s-2e, lcn.

Tazwell County: Pekin Oil Project Co.'s DeSutter 1, ne se nw 8-23n-6w, lcn.

Wayne County: Robinson & Puckett's Molt 1, ne nw nw 33-1n-8e, dr.

INDIANA

Gibson County: Bennett Bros.' Owen 1, ne sw sw 29-3s-12w, lcn.

KANSAS

Butler County: Ed Adair's Seegrist 1, c ne nw 36-25s-6e, lcn.

Morton County: Stanolind's Heiken et al 1, c 19-32s-40w, mirt.

Pawnee County: Inland Oil Co.'s English 1, sw nw sw 1-21s-15w, mirt.

Reno County: Coralena Oil Co.'s Williams 1, ne sw sw 9-22s-6w, lcn.

Seward County: Carter's Chapple 1, 50' w of c 23-31s-32w, lcn.

Sumner County: M. C. Sullivan's Corbin 1, se sw se 17-31s-2w, lcn.

Carter et al's Springer 1, c nw sw 35-32s-4w, lcn.

Texas Co.'s Wirt 1, nw nw sw 11-35s-2w, lcn.

KENTUCKY

Henderson County: John L. Sallee's Liles 1, 21-O-22, lcn.

Jessamine County: Ryan Oil Co.'s Hoover 1, 11-Q-59, dr.

SOUTH LOUISIANA

Plaquemines Parish: Sid W. Richardson's Magnolia Orange Grove 1, 995.14 n 2° 10 mins 10 secs e of cor of lse 600 fr el 600 fr sl 8-18s-26e, 11,500-ft test.

St. Mary Parish: Humble's Miami Corp. 1-H, start USCGS Station "Twin" go s 9707.5 th e 8774.2 to lcn 660 s 660 e of nwc of lse in T-16s-8e, 12,000-ft test.

Vermilion Parish: Ohio Oil Co.'s Elie Lalande 1, 1980 s 600 e of nwc 8-11s-8e, Leroy area, 12,000-ft test.

MICHIGAN

Allegan County: R. F. Frink's Studley 1, se ne ne 52n-16w, dr.

R. B. Tamblyn's Parker 1, sw ne sw 20-1n-11w, dr.

W. S. Cook's McKee 1, sw sw nw 3-1n-12w, lcn.

Arenac County: Don Rayburn's Consumers 1, nw nw ne 23-20n-3e, rig.

Montcalm County: C. E. Weller's Keyt 1, nw nw sw 28-12n-8w, lcn.

Saginaw County: Rowmor & Wilson's Malone 1, se ne se 7-12n-3e, rig.

Sanilac County: Shell's Perry 1, ne ne ne 9-9n-15e, dr.

MISSISSIPPI

Adams County: Charles H. Osmond's Armstrong Ellislie 1, n & w nec 31-5n-2w, lcn.

Rankin County: Leonard Jones & Associates' Warner 1, ne se 14-5n-1e, lcn.

MONTANA

Gallatin County: W. L. Durham's Ecton 1, c e½ sw se 1s-3e, dk.

NEW MEXICO

Chaves County: Geo. P. Livermore's Williams 1-B, ne nw se 3-13s-31e, mim.

Eddy County: Robert E. King et al's State 1, nw nw se 16-19s-27e, machine for 2000-ft test.

A. J. Hardendorf et al's State-Texas Gulf Prod. Co. 1, c ne ne 2-19s-30e, lcn 3500-ft test.

Torrance County: C. O. Byrnes et al's Lammon 1, 600 ft snl 1940 ft wel 3-3n-12e, lcn 800-ft test.

OKLAHOMA

Cotton County: Grace & Grace Drlg. Co.'s Tucker 1, sw sw sw 8-4s-10w, lcn.

Creek County: Ed Kubat's Brown 1, ne nw ne 18-16n-8e, lcn.

Garvin County: Ponder & Ledbetter's Prince 1, sw se sw 31-1n-2w, lcn.

Cities Service's Abernathy 1, se sw se 13-3n-2w, lcn.

Sinclair Prairie's Ackerman 1, nw se se 16-3n-3e, dr 257 ft.

Greer County: E. K. Lennan's Meadows 1, nw nw nw 27-4n-22w, lcn.

Kay County: Art Leeper's Dunlap 1, ne ne nw 18-26n-2e, c&p.

Lincoln County: Jordan Pet. Co.'s Keegan 1, nw nw sw 4-13s-5e, rig.

Logan County: Renco Oil Co.'s Howland 1, se ne se 30-19n-3w, lcn.

Marshall County: Allied Oil Co.'s School Land 1, sw sw ne 1-5s-4e, lcn.

McIntosh County: Continental et al's Follansbee 1, se se sw 13-9n-13e, lcn.

Stephens County: T. H. McCasland's Mitchell 1, ne ne nw 22-1n-9w, dr 125 ft.

Harry Parmore's Branch 1, sw sw sw 31-1s-7w, dr 1670 ft.

WEST TEXAS

Pecos County: Sun's Thornton Davis 1, 1050 wel 2400 nsl of 440-ac lse and H&GN Ry. 115, blk 8, spd on 1600-ft cable test.

Humble's State National Bank (El Paso) 4, c nw nw T.&St. L. Ry. 3, blk 140, lcn Ellenburger test.

Runnels County: Barron Kidd and A. W. Cherry's Halls Bros. 1, 330 nsl 1669 ewl of Carpenter sur No. 152, lcn 4800-ft rotary test.

Tom Green County: Harley Sadler et al's Bob Mims 1, c sw ne H&TC Ry. 80, blk 6, lcn 1800-ft cable test.

Winkler County: Stanolind's Sealy-Smith Foundation 7, c sw sw sect 10, blk A, G&MMB&A sur, lcn 7000-ft test.

WEST CENTRAL TEXAS

McCulloch County: Lee Howell, trustee's T. L. West 1, 1320 ft ewl 330 ft snl sect 155, H&TC Ry. sur, lcn 1950-ft cable test.

SOUTHWEST TEXAS

McMullen County: Dee Davenport's Annie Graves Dolph 2, 330 fr n&el se¼ J. Oppenheimer sect 25, 4042-ac lse, C. C. Shumway subdvn of Shiner Rch, 2000-ft test.

LOWER TEXAS COAST

Jim Wells County: Rodney Delang-W. Earl Rowe-Monday Oil Co.'s Luby Est. 1, 1400 fr el 6000 fr nl 851-ac lse, Pos Presenos Gr, Sh 41-A, lcn.

Kleberg County: Tom Graham's H. L. Daughters 1, 467 fr n&wl lot 5, AT&I subdvn blk 46, 2 mi sw Ricardo fld, lcn.

Southern Minerals Corp.'s Leo Kaufer 1, 467 fr el 1290 fr nl blk 42 and 53.12-ac lse, Koch's subdvn 1, Riviera lds sect 24, 7600-ft test, ru.

Sam E. Wilson, Jr.'s R. J. Kleberg & Co. 1, 467 fr e&sl sect 1, Kleberg T&I subdvn 547.57-ac lse, spud.

Lavaca County: Tide Water's G. K. Baum 1, 1700 fr nwl 6150 fr wly/swl J. McKenzie sur, 660 ne of nec of G. Wilgers sur 2, 7500 s of Underwood 1, 9000-ft test.

UPPER TEXAS COAST

Brazoria County: Humble's T. L. Neff et al 1, 467 ne of swl 4637 se of nwl of Day Ld. & Cattle sur 6, 1400 nw of m/sly/sel of 300-ac lse, Danbury e flk outpost test, 9500-ft test.

Harris County: J. M. Huber Corp.'s East Texas Oil Co. 1, 3000 fr nl 10,377 fr wl 2000-ac lse, 13,964 fr nl 10,377 fr wl Victor Blanco sur, 5500-ft test.

Jefferson County: Chance & Caldwell's Mary Fitzhugh 1, 150 fr n&wl m/ely 80-ac tr of 320-ac lse of former Stanolind acreage, Wm. McFaddin sur, 3700-ft test.

Washington County: Phillips' Mrs. H. Priesmeyer 1, start e cor sur go swly alg sel 2875 th sw at ra 3750 to lcn.

EAST TEXAS BORDER COUNTIES

Shelby County: J. C. Benedum and Davis' Pickering Lumber Co. 1, Brittain sur, 6½ mi e of Patroon, 8000-ft test.

NORTH TEXAS

Archer County: A. R. Dillard and Frank Wood's C. E. Carter 1, 150 out swc sect 39, blk 5, Clark-Plumb sur, 1200-ft rotary test.

F. P. Timberlake and H. M. Kelleher's J. L. Prideaux 1, 150 ewl 3000 snl of John Walker sur A-676, 750-ft cable test.

Jack H. Wilder Drl. Co.'s J. H. Robertson 1, 900 nsl 450 ewl of blk 14, J. W. Harris subdvn, 1500-ft rotary test.

Cottle County: S. D. Johnson et al's B. L. Smith 1, 330 out nec of 193.8-ac tr, sect 34, blk N, T. A. Thompson sur, 6000-ft Ellenburger test.

Jack County: Roeser-Pendleton - F. Kirk Johnson's Will Williams 1, 467 out swc of ne 640 ac of J. Turner sur A-609, 2½ mi s by w of Joplin, 6000-ft Ellenburger test.

Young County: Deep Rock Oil Corp.'s S. J. Roach 1, 330 out of nwc of s 160 ac of TE&L Co. sect 1204, 4500-ft cable test.

R. V. Tidwell et al's D. M. Baker 1, 4950 nsl 3270 wel of Henry Hodges sur A-134, 3600-ft test.

WYOMING

Big Horn County: Hagemond-Pond-Hanlon's Stanolind 1, se sw se 12-51n-93w, Lamb anticline, dr.

Crook County: M. D. Miller's 1, ne se 25-49n-67w, Wakeman Flats, lcn.

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■ One practically new Model FDM Franks Slim Hole or Shallow production Portable Unitized Drilling Unit, mounted on large tandem truck, with all necessary drilling equipment, ready to put to work. Will sell for 80% of actual cost. Box 572, Odessa, Texas.

■ FOR SALE: 50 perpetual royalty acres under 640-acre lease, King County, Texas. One mile from production. Well now drilling on offset acreage. Price $150 per acre. Immediate delivery. Address: Box 24, c/o The Oil Weekly, Houston, Texas.

■ FOR SALE: Six producing oil wells electrically equipped. Address: 513 Giddens-Lane Building, Shreveport, La.

NOTICES

■ FUR TRAPPING LANDS WANTED. Reliable Fur Merchant wants to lease, or will operate and supervise for owner muskrat trapping lands, long or short term basis. Write George W. Falgout, 308-310 Gravier Street, New Orleans 12, La.

ADVERTISING RATES

TRADING POST SECTION

Regular classified advertisements for this special section, set in type this size without border, take flat-rate of 7 cents per word for the first insertion and 5 cents per word for each subsequent insertion of same copy. Display advertisements for this section, set in suitably larger type with ruled border, are $5.00 per inch for the first insertion and $4.00 per inch for subsequent insertions. Remittance must accompany copy which should be sent to:

Trading Post Section, The Oil Weekly
P. O. Box 2608 Houston 1, Texas

HELP WANTED

—WANTED—

MECHANICAL AND ELECTRICAL ENGINEER

Oilfield Equipment Manufacturer of International prominence located in Beaumont, Texas, desires to employ qualified Mechanical or Electrical Engineer to assist in the design of D.C. Electric Drilling Rigs. Good salary, with unlimited post-war possibilities. All answers strictly confidential. Address: Box 6, c/o The Oil Weekly, Houston, Texas.

■ **Wanted by a consulting geophysical organization. Petroleum Engineers with Hayward Mud-logging experience or its equivalent. Immediate openings in Venezuela. Excellent opportunity for advancement to managerial positions throughout the world. Address: Box 36, c/o The Oil Weekly, Houston, Texas.**

WANTED

Manufacturer's representative calling on makers of oil field equipment in Oklahoma to sell a well established complete line of roller bearings to existing and potential trade. Engineering background essential. Related lines important. Commission. Address: Box 22, c/o The Oil Weekly, Houston, Texas.

Eastman Oil Well Survey Company has position open for field Sales and Service man in Louisiana Gulf Coast area. Applicant must have good knowledge of and be well acquainted in oil and drilling industry. Attractive salary. Expenses and car furnished. Address written application to Box 890, Lafayette, Louisiana.

WANTED TO BUY

■ Want to Buy—Late model 1500 foot Failing Rotary drilling machine or similar machine for small hole drilling. C. A. Simpson, Bisbee, North Dakota.

■ Want four Nixon Gas Lifts in usable condition. Give complete details and price. Box 49, c/o The Oil Weekly, Houston, Texas.

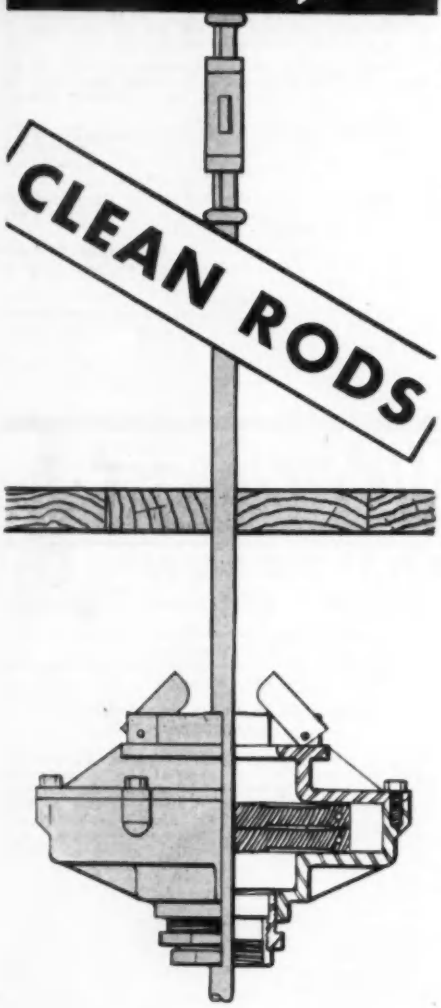
■ Desirous of purchasing one or two Askania Vertical Magnetometers, new or old model. Address: Box 25, c/o The Oil Weekly, Houston, Texas.

LEASES, DRILLING ACREAGE, ETC.

■ **Driller, Would you complete a well first year for sizeable lease 15/16 free, geology uncertain? John H. Smith 406 First Natl. Bank Bldg., Longview, Tex.**

■ **GOVERNMENT MINERAL reservation lands can be filed for U. S. oil lease. Its opportunity in developing oil area. Write, S. W. Pressey, Pueblo, Colo.**

"Best Bet Yet"



UNIVERSAL TYPE
SUCKER ROD WIPER

Designed for all sizes of rods. Cast steel body—Plain or safety cover. Adapted to fit pipe from 2" to 3" reinforced.

Replaceable double seal discs, made from oil resistant PBX synthetic rubber, Patterson-Ballagh's new development.

See Composite Catalog

Patterson-Ballagh
SUCKER ROD WIPER
Los Angeles 1 Houston 10 New York 6

SQUEAKS from the BULL WHEEL

Ilk Say or Otton Cay?

"Oh, Mr. Policeman, please help me! I've lost my aunt's pay."

"Okay, girlie, but cut out the pig latin and maybe we can find 'em."

Foggy Answer

A GI back from the European war and a Joe back from the Pacific war were swapping experiences.

"London is the foggiest town in the world."

"Nope, the foggiest town is in the Pacific."

"What's the name of it?"

"I dunno. It was so foggy I couldn't tell."

Wet Blankets

An officer came upon a sergeant who was yelling at two soldiers bathing in a flooded foxhole.

"What's the trouble here, Sergeant?"

"Why, these dirty bums are washing themselves in the water they're going to sleep in, sir."

Regimented

"That girl has a one-track mind."

"Yes, and I think there's a troop train running on it."

Citying and Countrying

A city fellow was trying to impress the country boy. "Yesterday we taxied to the country club, lunched, golfed until dark, then trolleyed back to town and rhumbaed until morn."

"That so? Well, I had a busy day, too. I muled to the corn field and geehawed until sundown. Then I suppered till dark, piped until nine, climbed the stairs and bedsteaded until dawn, after which I breakfasted until it was time to go muling again."

Strangers May Peep

"I had a swell time seeing that blonde last night."

"Gwan. She doesn't know you from Adam."

"Maybe not, but her shade was up and I couldn't tell her from Eve."

Ash Me Another

First drunk (on phone): "Is this Spruce, tree, tree, tree, tree?"

Second drunk: "Nope, this is Walnut, fir, fir, fir, fir."

First drunk: "'Scuse me. Wrong number."

His Error

"You can't take that straight-edge razor aboard ship, soldier. You're liable to cut yourself."

"Shucks, Cap'n, I been shaving with this razor for nigh on to ten years and I didn't cut myself either time."

Fleet's Growing

An old lady from the country had a son in the Navy. On one of her rare visits to town she haw a sailor. Thrilled, she rushed up and asked him if he knew her son.

"What ship is he on, lady?"

"What ship? You mean there are two?"

Poet's Nook

Hi Diddle Dumpling
My son, John,
Went to bed with his
Stockings on.
One shoe off and one
Shoe on . . .
Boy! Was he tanked!

Definitions

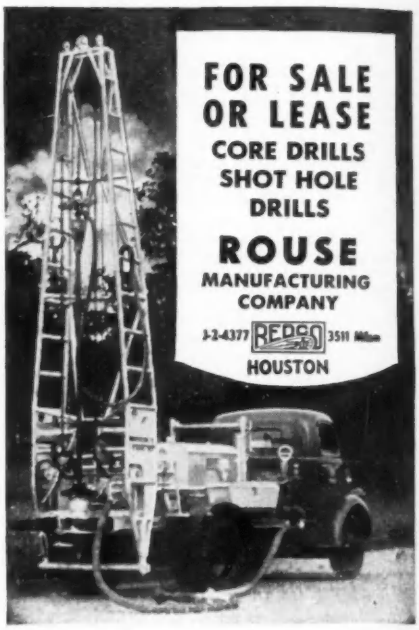
Gossip: A person with a keen sense of rumor.

Artist's model: A girl who is unsuited for her work.

Confession magazine: A place where people write their wrongs.

Plastic surgeon: A fellow who takes a stitch in time.

Paratrooper: A guy who climbs down trees he never climbed up.



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ENGINEERING

For high boiler efficiency and low maintenance, investigate our feed water engineering service. Prevents scale formation . . . protects boiler from corrosion . . . prevents caustic embrittlement.

10 years successful experience.

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"Service Not Promises"
307 M & M BUILDING
HOUSTON, TEXAS
910 S. PETERS STREET
NEW ORLEANS, LA.

R. L. Kidd has been appointed manager of the land and geological division of Cities Service Oil Company, Bartlesville, Oklahoma. He succeeds **M. M. Nisbet,** vice president, who has resigned. Both changes are effective June 1.

R. L. Kidd

Kidd began his services with the company in 1925. At the time of his elevation to the managership, he was chief geologist of the Bartlesville division.

He is a member of the American Association of Petroleum Geologists, Society of Exploration Geophysicists, and the Tulsa Geological Society.

Nisbet joined Cities Service in 1916. He was made a director of Cities Service Oil Company in 1940 and a director of Empire Pipeline Company in 1943. The same year he was elected vice president of Cities Service Oil Company.

J. C. Kennedy will continue as superintendent of the land department and **A. K. Wilhelm** will replace Kidd as chief geologist of the Bartlesville division.

Col. Russell M. Riggins, former treasurer for Phillips Petroleum Company, has been awarded the Legion of Merit for outstanding services in the Ordnance Department in Washington, D. C. The award was made for his "planning and developing a work measurement standard for determining the efficiency of depot operations in the Ordnance Department, thereby contributing vitally to the assistance of management in the operation of such large establishments and offering guidance to inexperienced personnel whose recruitment became necessary through increasing shortage of training manpower."

H. C. Fowler, former assistant chief of the Bureau of Mines, division of petroleum and natural gas, Washington, D. C., has been appointed supervising engineer of the petroleum experiment station at Bartlesville, Oklahoma, succeeding **N. A. C. Smith,** resigned.

J. A. Welch, Rock Island, Illinois, former treasurer of Illinois Oil Company, has been elected president of the newly organized Illinois Oil Products Company.

C. A. Warner of Houston, vice president and director of the Houston Oil Company of Texas, spoke on "The Development of Oil in Texas" before the Texas State Historical Association in Austin. **L. W. Kemp,** The Texas Company, Houston, is president of the Association.

Robert L. West, formerly of Houston and recently discharged after military duty in the Pacific, is a North Texas scout for The Superior Oil Company of California, succeeding **Waldo Haven,** who has been placed in charge of the drafting department of the Heydrick Mapping Company, Wichita Falls.

W. G. Skelly, president of Skelly Oil Company, Tulsa, was presented a gold medal for outstanding service to the Army Ordnance Department in recognition of his work as the Oklahoma member of the St. Louis Ordnance District Advisory Board. The presentation was made by **Col. Richard W. Coward.**

W. A. Schaeffer, Jr., former engineer for Shell Oil Company, has joined the Associated Engineers, Houston, as manager of a new district office established at Midland, Texas.

J. G. Bird, J. P. Gibbins and **Roy A. Minear,** all of Midland, Texas, have organized the Well Maintenance, Inc., with paid-in capital stock of $25,000 to operate in the Permian Basin.

Dr. John L. Rich, consulting geologist and chairman of the department of geology and geography of the University of Cincinnati, is in China as a consultant to the China Natural Resources Commission on exploration and development of petroleum and natural gas resources.

Charles Bunje, Jr., and **O. F. Moore,** president and vice president, respectively, of the Illinois Pipe Line Company with headquarters at Findlay, Ohio, were honor guests at a barbecue given April 23 by company employes in the Yates field, West Texas. Bunje plans to retire January 31, 1946.

R. A. Rank has become district geologist for the British American Oil Producing Company, with headquarters in Jackson, Mississippi. Rank was associated with Navarro Oil Company for several years.

Daniel E. Wilson, formerly with Continental Oil Company in Texas, is now a scout with the British American Oil Producing Company in Jackson, Mississippi.

Austin Jones, formerly research and development engineer of Kerotest Manufacturing Company, Pittsburgh, Pennsylvania, has been named Toledo district manager with headquarters at 1743 West Central Avenue, Toledo 6. Jones will supervise Kerotest sales in the Ohio, Michigan, Western Indiana and Central Kentucky areas.

Austin Jones

T. L. Fontaine has resigned from Humble Oil & Refining Company. He had been connected with the company since January, 1927, and had been chief clerk of the production department since 1933.

T. L. Fontaine

Prior to joining Humble he worked for the Rio Bravo Oil Company for a number of years. Fontaine will be a partner in the Atlas Engineering Works and will also be associated with **Holly M. Brock,** manager of the Union Central Life Insurance Company. He will be located in the Esperson Building, Houston.

Frederic F. Mellen and **E. T. Monsour** have entered into a partnership as consulting geologists with offices in Jackson, Mississippi. **Anna Brooke Shaw** will be associated with them as secretary and treasurer. Miss Shaw and Mellen were formerly with the British American Oil Producing Company. Monsour was formerly with Humble Oil & Refining Company, Standard Oil Company, and Navarro Oil Company.

Walter W. Brown, formerly in charge of The Sohio Petroleum Company's geological office in Oklahoma City, has been assigned to head a similar office at Wichita Falls, Texas, to cover North and North-Central Texas.

Herbert Willetts, manager of the New York City Division of the Socony-Vacuum Oil Company since 1936, has been appointed assistant general manager of Eastern marketing. He succeeds **A. L. Nickerson,** who has been transferred to the foreign trade department. **Quentin W. Regestein** has been named general manager of the New York City Division, succeeding Willetts.

D. O. Barrett, chief mechanical engineer for Gulf Oil Corporation, Tulsa, conducted a program before the Engineers Club of Tulsa on "Man Versus Machine."

Clarence E. Wynn has been promoted to manager of National Tube Company's industrial relations for its tubular alloy steel division in Gary, Indiana, succeeding **Gray D. Hobby,** recently transferred to a similar post in the company's Loraine plant.

B. S. Pease, sales executive of American Steel and Wire Company, U. S. Steel subsidiary, has retired as assistant manager of the wire rope and construction materials division. **Myron E. Capouch** succeeds him. Pease joined the Wire Company as a salesman in the Chicago office in February, 1909. Capouch began his association with

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PAGES 3079 THRU 3098 IN THE COMPOSITE CATALOG

the Wire Company 19 years ago as a salesman. He served in various positions and leaves that of assistant manager of the electrical and wire rope department in Chicago to assume his duties in Cleveland.

B. F. Lease has been elected president of Athey Truss Wheel Company, Chicago, to fill the vacancy caused by the recent death of **C. Kier Davis.** Lease has been with the company 13 years, and was vice president in charge of sales, advertising and service.

Steve Maples and **Tom Gannaway** have formed a sales organization known as the M. & G. Specialty Company, with offices in the Hunt Building, Tulsa. They will handle Miracle Adhesives manufactured by Miracle Adhesives Corporation, Newark, New Jersey.

Harold D. Powell has been named division tubular manager for the Mid-Continent Supply Company with headquarters at the company's general office at Fort Worth.

W. T. Davis has been named district manager for Bethlehem Supply Company's district office which has been opened in Suite 550, First National Bank Building, Oklahoma City.

Patrick W. Cross has been named manager of the Sao Paulo, Brazil, office for Westinghouse International Company, Pittsburgh. **W. W. Parker** was named regional engineer in the Rio de Janiero, office of Westinghouse.

R. P. Tyler has been appointed general sales manager for Macwhyte Company, Wire Rope Manufacturers, Kenosha, Wisconsin. He formerly was sales manager for A. Leschen & Sons Rope Company, St. Louis, and prior to 1940 served in sales and engineering capacities with John A. Roebling's Son's Company, Trenton, New Jersey. **H. E. Sawyer,** formerly general sales manager as well as vice president and treasurer of Macwhyte Company, will continue as vice president and comptroller.

A. L. Brasseux, Lafayette, Louisiana, has been named South Louisiana service engineer for Sterling Packing and Gasket Company, Houston.

A. L. Brasseux

Brasseux has represented manufacturing and supply firms in the Louisiana territory for several years. As service engineer, he will offer packing and gasket survey service to the oil industry of South Louisiana.

Ward Keener has been appointed assistant to the president of The B. F. Goodrich Company, Akron, Ohio. He has been associated with the company since 1937, serving in a wide field of activities. In 1942 he became director of business research and the following year was appointed assistant to the vice president for finance.

Ward Keener

W. C. Coolidge, former division manager of The Atlantic Refining Company's Houston division, has been made Texas and North Louisiana representative for Louisiana Oil Reporting Service. Coolidge will have his office at 2015 Second National Bank Building, Houston.

Roy D. Demme, for 20 years an employe of The Texas Company in Houston, has been promoted to captain. Captain Demme is chief of the container and equipment section, requirements branch of the fuels and lubricants division of the Office of The Quartermaster General.

Clarence E. Wynn has been made manager of industrial relations for the Tubular Alloy Steel Division plant of National Tube Company at Gary, Indiana.

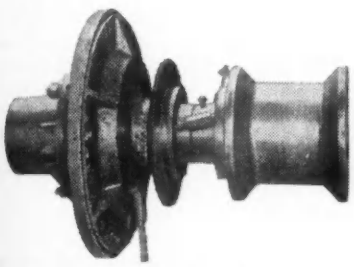
Deaths

E. Wayne Galliher, chief geologist for Barnsdall Oil Company in California, died April 29 after accidentally shooting himself while cleaning a rifle. Galliher was president of the Pacific section of the American Association of Petroleum Geologists in 1941 and had been with the Barnsdall since 1935. He became chief geologist in 1937.

Walter Jackson Bailey, veteran employe of the Humble Pipe Line Company, died April 29 in Houston. Bailey was employed at the Pierce Junction warehouse.

D. R. Hodges, Abilene, Texas, drilling contractor and producer, died April 28 of a heart attack. He was 48.

Emil Opferkuck, former sales manager of the Superior engine division of National Supply Company at Springfield, Ohio, died April 28 in Cincinnati. Opferkuck, 64, had been in ill health since retirement five years ago.



1—Breakout Cathead

The Foster Cathead Company, P. O. Box 1675, Wichita Falls, Texas, announces the Foster Master Breakout Cathead with a powerful toggle action friction clutch, which is replacing its previous model catheads.

The improved model winds the jerk line on a six-inch diameter drum. The power applied to the jerk line is in direct proportion to the effort exerted on the control lever, enabling the operator to break joints safely on the fastest line-shafts without taking up unnecessary time.

By eliminating all metal-to-metal impacts and because there is no positive clutch, the cathead reduces upkeep. Greater safety of operation is assured because the jerk line speed has been reduced to less than half at a given line-shaft speed, and because the driller controls both the length of the stroke and the power applied to the jerk line.

2—Metal Cleaners

The Optimus Detergent Company, 224 Church Street, Matawan, New Jersey, has just announced a new line of industrial metal cleaning materials designed to cover a wide range of specific applications. The products are available in alkaline, acidic, solvent and emulsion types.

3—Transparent Tape

International Plastic Corporation, 10 Park Place, Morristown, New Jersey, has a new line of printed transparent cellophane tape available to users engaged directly or indirectly in a war industry. The tape is clearly transparent with a high tensile strength.

4—Steam Trap

Armstrong Machine Works, Three Rivers, Michigan, announces a cast steel inverted bucket steam trap with side inlet, side outlet pipe connections, and designed for pressure up to 600 pounds. It is available with ½, ¾, or 1 inch screwed or flanged connections. Flanges are welded into the trap body. Height is 11¼ inches. Dimensions between flanges range from 11⅜ to 12⅛ inches, depending upon pipe sizes.

The inverted bucket and valve lever are made of 18-8 stainless steel; the valve and seat are chrome steel hardened, ground, and lapped. One of the features of the trap is that the cap and interior mechanism can be removed for inspection or repair without breaking either the outlet or inlet connections.

5—Block

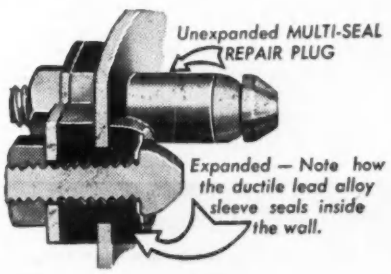
Johnson Block Company, 320 West First Street, Tulsa 3, Oklahoma, has introduced a new oil field block which is said to incorporate maximum safety and efficiency features.

The block is compact and sturdy, of all-steel construction, with large bearing diameter and pressure lubrication.

An exclusive locking feature permits threading of the line with no exertion on the part of the operator and without complete removal of the locking pin which is not detached from the block except for replacement. There are no pins or parts to become lost or dropped.

Double movement of the swivel hook assembly eliminates leverage or undue strain.

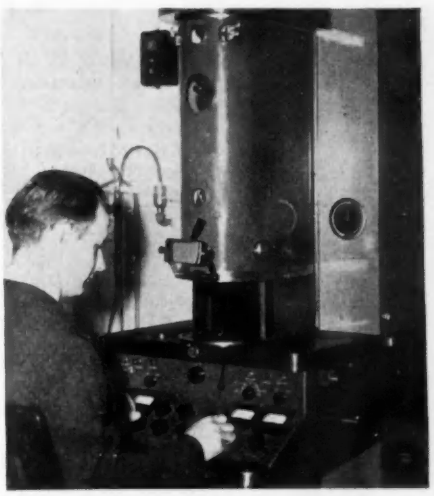
Extra heavy side plates, securely locked prevent spreading under extreme load. Short over-all length makes the block especially desirable for boom or gin pole application.



6—Repair Plug

Rolyan Metal Products, 2330 58th Street, Chicago 36, Illinois, has developed a multi-seal repair plug which is being introduced into oil field service. The plug is said to stop leaks permanently in tanks, boilers, and other metal containers. Installation is made from the outside without emptying the container.

The plug is merely inserted into the hole and the nut drawn tight to form a leakproof seal of lead alloy which is noncorrosive. Sizes range from ¼-inch to 1½-inch diameter.



7—Electron Microscope

Hugh Barton, research physicist for Phillips Petroleum Company, tries out the new RCA electron microscope recently installed at the Phillips laboratory, in Bartlesville, Oklahoma. The new microscope is said to be the first of its kind installed in Oklahoma.

Instead of a beam of light the microscope uses a beam of electrons and focuses the enlarged image of the specimen on a screen similar to the ones used in the "magic eye" radio tubes and in some television tubes.

8—File Cleaner

Cincinnati Tool Company, 4090 Montgomery Road, Cincinnati 12, Ohio, has introduced a file cleaner which is said to clean a file of soft metal chips of lead, copper, aluminum or soft steel quickly and effectively. A special square-shaped plate is fastened to the frame of a regular file cleaner. This plate or plow, made of soft steel, is used by striking one edge of the file to be cleaned, thus impressing the tooth pattern on the edge.

The plow is then pushed parallel to the file grooves.

Use This Coupon for Additional Information

FOR YOUR CONVENIENCE: Check or circle the numbers identifying the information you want; mail this coupon to The Oil Weekly and your request will be promptly sent to the manufacturer. To avoid delay be sure to indicate your complete mailing address.

THE OIL WEEKLY
P. O. Box 2608, Houston 1, Texas, U.S.A.

Please have the manufacturers send me, without obligation, more information or literature on items checked below. (Numbers correspond to descriptive paragraphs as shown in May 7 issue of The Oil Weekly):

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Company_____

Name_____ Title_____

Address or P. O. Box_____

City_____ State_____

(Print or type clearly name, company and address)

9—Casing Scraper

Security Engineering Company, Whittier, California, announces a casing scraper designed to fill the need for a tool that thoroughly cleans the inside of pipe whether new or old. According to the manufacturer, the scraper cleans the dirtiest pipe and prepares it for free passage of production tools in only 200 turns.

Casing Scraper

The scraper is especially recommended for taking burrs off gun perforations, cleaning cement, scale, corrosion, paraffin, and all kinds of material from the inside walls of casing.

Square mandrels with reversible scrapers greatly lengthen the life of the tool and reduce operating costs. Each scraper with its hardened cutting thread is subjected to controllable spring pressure, providing uniform wall contact under all conditions. This use of a number of strong coil springs permits size adjusting up to full casing diameter.

10—Spectrometer

North American Philips Company, 100 East 42nd Street, New York 17, New York, announces the Norelco Geiger-Counter, X-Ray Spectrometer, an industrial tool which provides new method of making quantitative and qualitative analyses of crystalline and certain amorphous substances. It is claimed that under optimum conditions of resolution, the accuracy of this instrument is within ± 0.03 of a degree.

A scanning device, having a Geiger counter tube arranged to traverse a graduated quadrant, is used in combination with suitable scaling circuits. The intensity measurements are quantitatively accurate and can therefore be used to determine composition of crystalline mixtures. Quantitative analyses of mixtures can be obtained in a matter of minutes.

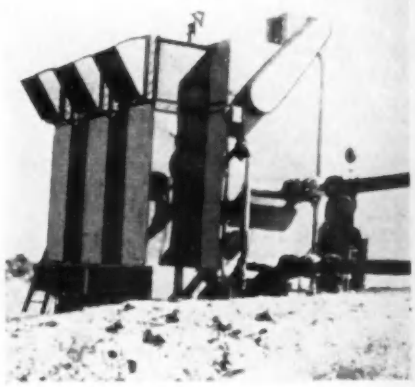
In actual operation, the specimen inserted in the specimen holder intercepts the X-ray beam and deflects portions of it at various fixed angles. When the Geiger counter tube is moved around its quadrant, it measures angular displacement and intensity of the deflected beams. A d-c microampere meter reads intensity—the quadrant, marked in degrees, shows diffraction angles. A stepping counter, employed in conjunction with a specially developed scaling circuit, provides a means for exacting quantitative determination of intensity.

X-ray diffraction analysis has almost unlimited fields of application in chemical and metallurgical industry. The spectrometer is especially designed for accurate, rapid analyses. It is adaptable for use by unskilled operators in routine process control as well as in the research laboratory.

A few applications include boiler scale where silicate and phosphate scales may be identified. By means of the spectrometer, the chemical reactions between scale products can be determined. In engine wear and lubrication, deposits on filters, valves, bearings, etc., can be identified. Paint pigments can be quickly analyzed for relative amounts of different crystal forms.

Use the Coupon

For additional information on these products see coupon on preceding page.



11—Cooler-Condenser

Drayer & Hanson, Inc., Los Angeles, California, announces a portable "Gas Lift" evaporative cooler and condenser that can be set down wherever desired. The first one of its kind, the device is now operating in the Kettleman Hills district.

It is claimed that construction and installation costs of this unit were considerably less than those of a standard cooling tower of similar capacity.

The unit handles 15,000,000 cubic feet per day of natural gas at 175° F., cooling it to 90° F. under 2000 pounds per square inch gauge and condenses out 160 barrels of 42-gravity oil. In addition, 15 barrels per day of water is condensed out, reducing probabilities of hydrate formation during re-expansion.

The "Gas Lift" evaporative cooler and

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POWER AND STEAM RIGS

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Local 7746-7747 Long Distance 95

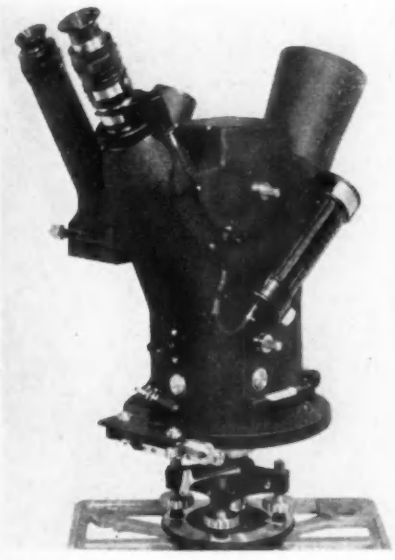
condenser is 15 feet, 9 inches long, 12 feet, 10 inches high, 4 feet, 8 inches wide and weighs approximately seven tons. It can be operated with natural gas, gasoline or electricity and is completely self contained, incorporating its own control. The temperature control is attained with motor operated dampers, effectively maintaining the desired gas outlet temperature, regardless of weather changes. Filtered air intake prevents accumulations of dust within, protects the pump and spray unit, prevents contamination of recirculating water supply and increases the life and efficiency of the entire mechanism.

12—Pins

Driv-Lok Pin Company, 565 West Washington Boulevard, Chicago 6, Illinois, announces a complete line of standard and special self-anchoring vibration-proof pins.

These pins, which are pressed or driven into standard drilled holes, have four flutes on the surface parallel to the axis. The length and position of the flute can be controlled accurately, so that fully or partially grooved pins are available. Fully grooved pins have a pilot at one end so the pin can be easily inserted.

The raised, work-hardened edges of these flutes provide an expanded diameter of a few (specified) thousandths greater than the nominal diameter of the pin. When the pin is inserted in a drilled hole, these raised edges are compressed inwardly, providing a resilient, self-locking element which, it is claimed, will hold indefinitely under vibration or shock conditions. They are available in sizes from 3/64 to ½-inch diameter, and from 3/16 to 4½ inches in length, in any material, and in a wide variety of types.



13—Astrolabe

David White Company, 315 W. Court Street, Milwaukee 12, Wisconsin, has developed the Willis Pendulum Astrolabe which has direct application in exploration activities.

The instrument was designed to answer the need for identification of locations selected in prospecting or in other work, with or without mapping; for establishing control points for aerial and general surveys; for establishing control points for treatment of deflections of the vertical in geodetic surveying; for determining time; and for teaching practical astronomy.

The astrolabe is an optical instrument having a glass reticle with five curved lines which represent five circles of constant altitude over which images of stars may be observed to transit. Stars brighter than about the 7½ magnitude may be observed.

By the appropriate arrangement of a mirror on a pendulum with spring suspension and air damping, the effective altitudes of the reticle lines (which are not pendulous) are made to be constant within about a tenth of a second of arc even when the non-pendulous parts of the instrument are out of level a minute of arc. When not in use, the pendulum is held by four clamping thumb screws.

If the Greenwich times or standard-zone times of the transits of three or more identified stars over one of the reticle lines are observed, the longitude and latitude of the observing station may be computed.

Literature

14—Self-Priming Pumps

Marlow Pumps, Ridgewood, New Jersey, has available a 20-page booklet on "Self-Priming Centrifugal Pumps." Profusely illustrated, the booklet is devoted primarily to non-technical data on the science of centrifugal action, the physics of pumping, data on operation, installation, care and maintenance of centrifugal pumps.

15—Water Separator

Flotrol Systems, Inc., 385 Gerard Avenue, New York 51, New York, has published two bulletins on their products.

Bulletin FL-100-45 discusses Flotrol systems for clean, dry, safe fuels.

Bulletin EX-100-45 describes the Lewis EXCEL-SO water separator and filter, for separating water from petroleum products.

16—Compressors

Davey Compressor Company, Kent, Ohio, has published a catalog on its line of compressors, truck power take-offs, and pneumatic saws.

Food Machinery Corporation Purchases Dayton-Dowd

The Dayton-Dowd Company, Quincy, Illinois, has been purchased by Food Machinery Corporation and will become a branch of Peerless Pump Division of Food Machinery Corporation under the direction of Clarence M. Frazier, vice president.

Peerless covers the United States with a sales organization and has factories in Los Angeles, Quincy, and Canton, Ohio. Other branches and offices are

An A.A.P.G. Publication!

TECTONIC MAP of the UNITED STATES 1944

Prepared under the Direction of the Committee on Tectonics, Division of Geology and Geography, National Research Council.
Chester R. Longwell, Chairman, Philip B. King, Vice-Chairman.
Charles H. Behre, Walter H. Bucher, Eugene Callaghan, D. F. Hewett, G. Marshall Kay, Eleanora B. Knopf, A. I. Levorsen, T. S. Lovering, George R. Mansfield, Watson H. Monroe, J. T. Pardee, Ralph D. Reed, George W. Stose, W. T. Thom, Jr., A. C. Waters, Eldred D. Wilson, A. O. Woodford.

A NEW GEOLOGIC MAP OF THE UNITED STATES AND ADJACENT PARTS OF CANADA AND MEXICO
Geologic structure, as evidenced and interpreted by a combination of outcropping areas, bedrock, surface disturbance, and subsurface deformation, is indicated by colors, symbols, contours, and descriptive explanation. Igneous, metamorphic, and selected areas of sedimentary rock are mapped. Salt domes, crypto-volcanic disturbances, and submarine contours are shown. The base map shows state boundaries, rivers, a pattern of cities, and 1-degree lines of latitude and longitude.
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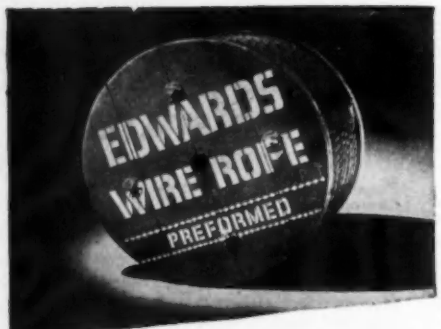

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NEW EQUIPMENT . . . LITERATURE

at Fresno and Bakersfield, California, Canton, Ohio, and Plainview, Texas. Products are horizontal centrifugal and vertical turbine pumps.

All present lines now made by Dayton-Dowd will be continued and augmented. Distribution will continue under the present sales representation.

William C. Dowd, vice president in charge of engineering of The Dayton-Dowd Company, will continue as executive in charge of engineering of the Quincy branch, with Rome A. Terwelp and Carl N. Adams remaining in their present capacities of factory manager and assistant manager in charge of the office, respectively.

Warner Vaughn, now a district engineer for Peerless in the East, will be sales manager of the Quincy branch.

Mrs. Celia B. Dayton, chairman of the board and Henry F. Dayton, president, are retiring from the company.

Henry J. McKenzie has been made manager of the new branch of the division at Quincy, Illinois. He has been assistant manager of Peerless Pump Division.

Comner Store Opened

W. L. Comner Company, Shreveport, Louisiana, has opened a store at Heidelberg, Mississippi. Personnel includes E. F. Keith, district manager, and C. R. Bell, store manager. Parts and service for Buda engines and Gasco pumps will be maintained.

Fluorographic Exploration Facilities Are Expanded

The facilites of Fluorographic Exploration Company, which has offices and laboratory in Houston, have been expanded to better serve the demand for service. However, until the war is over limitations will prevent a complete coverage of demand.

Fluorography was first offered to the industry by the company in December, 1943. The method has been developed by geologists under the direction of W. B. Ferguson, a geologist and inventor of the method. Oil bearing areas are mapped as anomalies in the fluorescent density of surface and subsurface formations. It is said to be very rapid, economical, usable in difficult terrain, and to be suitable in mapping stratigraphic traps and porosity conditions.

The company also offers a service of Fluorologs, which are well logs compiled from the fluorescent analyses of well samples, for the purpose of revealing pay horizons.

A. O. Smith Corporation Opens New York Offices

The A. O. Smith Corporation, International Division, has opened offices in the Commerce Building, New York, under direction of A. E. Cripps, newly-appointed Eastern supervisor.

In addition to handling the firm's export activities in New York, Cripps also will supervise its lend-lease and foreign government business in Washington.

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